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ABSTRACT

A 3-year research project conducted at a new pharmaceutical manufacturing plant was designed to determine whether quality of worklife (QWL) consultation provided to a new plant during its planning, staffing, organizing, and initial operation would contribute to improved job satisfaction and productivity as compared with a long-established, more traditionally managed plant in the same company making the same products, but not receiving QWL consultation. The report describes developmental events, prevailing conditions relevant to consulting efforts, and outcomes of those efforts, and the question of why one major segment of the plant (quality assurance) seemed better able to sustain the QWL effort than the other major segment (production) is analyzed. Implementation of project concepts is reported to be limited by the organization's financial problems (those related to adjustment to new ownership, and technical difficulties); nevertheless, positive outcomes are reported in terms of satisfactorily meeting production goals, ego-involvement of the workforce, comparatively low absenteeism, and the plant's survival of the frustrations of start-up delays. Recommendations are made for future efforts to achieve both enriched quality of worklife and improved business effectiveness/efficiency. (TA)

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IMPROVEMENT IN THE QUALITY OF WORKLIFE AND PRODUCTIVITY:

A Joint Venture Between Management and Employees

FINAL REPORT

Edward M. Glaser, PhD
Project Director

Carroll E. Izard, PhD
Principal Investigator

Mary Faeth Chenery, M.M.
Project On-Site Participant-Observer

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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Human Interaction Research Institute
10889 Wilshire Boulevard
Los Angeles, California 90024

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Edward M. Glaser, PhD, Carroll E. Izard, PhD, Mary Faeth Chenery, MA

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Human Interaction Research Institute
10889 Wilshire Blvd., Suite 1120
Los Angeles, California 90024

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The report describes and interprets a research project conducted by the Human Interaction Research Institute at a new branch pharmaceutical manufacturing plant. The study, supported by a grant from the Department of Labor, was designed to assess the relationship between Quality of Worklife (QWL), productivity, and job satisfaction. The report describes developmental events, prevailing conditions, consulting interventions, and outcomes. An analysis is presented of what seems to have worked and what has not. At the time of the project, the corporate organization was beset by financial problems and those related to adjustment to new ownership; the branch plant was overwhelmed by start-up technical difficulties. Nevertheless, positive outcomes can be reported in terms of satisfactorily meeting production goals, ego-involvement of the workforce, comparatively low absenteeism rate, and the plant's survival of the eroding frustrations of start-up delays. Learnings and recommendations have been drawn from the experience in order to provide indications for future efforts to achieve enriched QWL and organizational effectiveness.

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Management training
Manpower utilization
Manufacturing
Motivation
Incentives
Orientation
Performance
Personnel
Personnel development
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Placement
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Mary Faeth Chenery
Edward M. Glaser
Carroll E. Izard

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LIST OF ABBREVIATIONS

It might be well at the outset to identify all abbreviations that will be used in this report.

BoB, FDA = Bureau of Biologics, Food and Drug Administration

C/C = Centerton plant of Crown Medical Specialties Company, where this experiment was conducted, located in the southeastern part of the U.S.

CMS = Crown Medical Specialties Company (a pseudonym used because the participant company prefers such anonymity in this report)

DOL = U.S. Department of Labor

E/M = Engineering and Maintenance

HIRI = Human Interaction Research Institute

ISR = Institute for Social Research, University of Michigan

QA = Quality Assurance

QWL = Quality of Worklife

PD = HIRI project director, Edward M. Glaser, PhD

PI = HIRI principal investigator, Carroll E. Izard, PhD

P-O = participant-observer, Mary Faeth Chenery, M.M.

PM = Participative Management

ABSTRACT

The report describes and interprets a research project conducted by the Human Interaction Research Institute at a new branch pharmaceutical manufacturing plant, located in a rural southeastern U.S. location. The study was designed to assess the relationship between Quality of Worklife (QWL), productivity and job satisfaction. It was supported by a grant from the Department of Labor (DOL). The project's goals were: (a) to determine if QWL consultation to a new plant would contribute to improved job satisfaction and productivity compared with an established plant of the parent company manufacturing the same products, but not participating in such consultation; (b) to describe developmental events, prevailing conditions, consulting interventions and their outcomes; and (c) to distill learnings from what seems to have worked well or what has not, in order to provide indications for future efforts to achieve enriched QWL and organizational effectiveness.

Thorough implementation of the project concepts was limited by a number of factors discussed in the report; e.g., pressures resulting from start-up of a new plant and associated technical problems; a change in corporate ownership resulting in changes in corporate priorities, especially in response to the economic recession and a period of corporate financial difficulty experienced during 1974-75.

Positive outcomes can be reported, however: the initial production runs were successful; there is evidence of widely shared ego-involvement among the total workforce with the plant and its problems; the absenteesim rate has been only 2.3% compared with a regional average of 4.5%; the plant has successfully weathered major problems, frustrations and pressures involved with start-up delays and simultaneous needs to "hurry into production." Although a diminution of overall enthusiasm and commitment to participative management has been noted, there is evidence that management feels the project has reinforced their efforts to create a good working environment. Learnings and recommendations have been drawn from the experiences, with a full chapter devoted to these findings.

A forthcoming companion report by the Institute of Social Research, University of Michigan (ISR), due approximately in December 1976 or early 1977, will present results of an independent evaluation of this project and its outcomes.

EXECUTIVE SUMMARY

Improvement in the Quality of Worklife and Productivity: A Joint Venture Between Management and Employees

This is a report about an action research project conducted at a new pharmaceutical manufacturing plant of Crown Medical Specialties Company (CMS), located in Centerton, Southeastern U.S., by the Human Interaction Research Institute (HIRI), funded by the U.S. Department of Labor (DOL).

Objectives

The principal objectives of this three-year study have been:

1. To determine whether a quality of worklife (QWL) consultation to a new plant during its planning, staffing, organizing, and initial operation would contribute to improved job satisfaction and improved productivity as compared with a long-established, more traditionally managed plant in the same company making the same products, but not receiving QWL consultation. HIRI's responsibility was to provide the QWL consultation.

2. To describe and document the noteworthy events in the development of this new plant, the nature of the consulting interventions, the prevailing conditions seemingly relevant to the consulting efforts, and the outcomes of those efforts.

3. To distill learnings from what has worked well, what has not, and what might work better in future efforts to achieve both enriched quality of worklife and improved business effectiveness/efficiency. This largely clinical evaluation is to be supplemented by an independent, more quantitative analysis conducted by the Institute for Social Research (ISR), University of Michigan.

A fourth objective, not originally anticipated, has been added, namely, to analyze why one major segment of the Centerton plant (Quality Assurance) seemed better able to sustain the QWL effort than the other major segment (Production).

Method

The primary consultation tasks involved were:

1. Working out agreement with corporate top management on the West Coast and with local top management at the Centerton plant regarding the purposes and conditions of this experiment.

2. Consulting with the general manager, production manager and personnel manager regarding arrangements that would permit small teams of workers to handle significant segments of the manufacturing process, encourage employees to participate in planning the organization of their work, and permit cooperative problem solving by employees and their managers/supervisors.

3. Providing psychological assessment and screening inputs for consideration by the plant manager and personnel manager in the early selection of department managers and section supervisors, then subsequent assistance in selection of operators when they were hired in March 1975.

4. Serving as trainers to help the personnel manager present QWL and management training programs for the key personnel shortly after they were hired, and participating in subsequent orientation efforts with operators and new supervisory employees.

5. Being available as resource persons to help with various types of individual, group, and organizational problems; e.g., contributing to conflict resolution, communications facilitation, procedures for setting up goal attainment feedback mechanisms, and individual or group management development needs.

6. Maintaining a full-time participant-observer (P-O) at Centerton to observe the plant operations on a daily basis, with attention to the impact of stressful start-up conditions on QWL concerns. The P-O also served as a participant in problem identification, problem solving and feedback regarding the developing managerial styles and team functioning. Backup was provided through periodic visits to the plant by the project director (PD) and principal investigator (PI).

7. Documenting what each member of the HIRI project team observed, learned from others, and interpreted with regard to the development of events at Centerton, along with documentation of consulting intervention efforts and their impact.

Major Organization Developments to Date

Positive Developments:

1. The initial production runs were successful, which is an unusual achievement. The plant was licensed in November 1974 by the Bureau of Biologics (BoB) of the Food and Drug Administration (FDA), to ship its first product, with three other product licenses granted by July of 1975.

2. The plant performance has exceeded company expectations for quantity of production and yield of finished product from the raw material. Countless technical problems were overcome. Efforts to cope with these problems involved not only personnel at the plant, but experienced experts from the headquarters as well. Thus, achievements attained at the plant were affected not only from general management results, but also from highly complex technical resolutions to problems--resolutions that had to meet FDA and BoB requirements as well as the company's own high standards.

3. Based upon ISR surveys,* HIRI interviews and many non-solicited attestations, there is evidence of broadly-felt ego-involvement among the total workforce with the company, the plant and its problems. Workers are committed to the goal of high quality products. Personnel appreciate the unusual opportunity to have a "say" about their work. They feel that management usually is responsive to their ideas, and there is widespread concern about plant goals and problems. (The rate of absenteeism is sometimes used as an indication of alienation or involvement. In the Centerton plant the absenteeism rate has been 2.3%, which seems low in contrast to the regional average of 4.5%. The next lowest CMS plant rate is 9.3%.**)

4. The plant has weathered great frustrations, pressures and irritations in the start-up and "debugging" phase from May 1974 to about May 1975. After that time, the Centerton organization began to settle down and mature in a generally healthy, productive way.

5. Some of the focal points of the QWL improvement effort, such as the development of a responsive managerial climate that would pay heed to needs, suggestions or criticisms from any member of the workforce, have been internalized as the general style of work at Centerton, even though no longer a QWL thrust per se.

Dubious or Negative Developments

1. The early enthusiasm for creating an innovative QWL program has been blunted. While the management climate of

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* Source: ISR Short-Form Feedback Report--a monthly survey.

**Source: Centerton Personnel Department. The plant, in keeping with the practice for that region and of the state, excludes from these absentee rates excused absences, paid vacations and holidays. Because of the number and diversity of CMS corporate locations, corporate figures include these absences as well. Thus, direct comparison with the regional average is valid, but comparison with the other plants in the company is contaminated by differences in the definition and thus the calculation of absenteeism.

the plant still is more responsive to employees' needs, suggestions and criticisms than in a traditionally managed manufacturing plant (according to Centerton workers' own reported experiences with other companies and the consultants' experience with Crown's headquarters plant as well as with numerous other companies), the many intervening factors and difficulties have led to a diminution of concern for QWL improvement considerations.

2. While some managers and supervisors have maintained a style that sincerely invites participation by the task teams in the design, structure and organization of their work, others have reverted to a more traditional authoritarian approach that is short on upward communication and defensive with regard to suggestion or criticism. The Centerton plant manager's initial support of participative management has shifted toward a philosophy of "manage in whatever way is comfortable for you so long as you get good results." Thus, those whose customary management style tends to be authoritarian are no longer unequivocally encouraged to learn new ways of stimulating ego-involvement on the part of the workforce by respectfully and appreciatively inviting their participation.

Some Conditions Affecting the Experiment

1. In February 1974, nearly 12 months after the experiment was initiated, CMS was sold to a foreign multinational company. The new owners installed a president and chief executive officer, and a vice president in charge of manufacturing at corporate headquarters. The former president was retained as board chairman. The new management was concerned primarily with solving the company's severe financial problems and was only marginally aware of the project in Centerton. In the Fall of 1974, the HIRI P-O learned that at least some influential members of the local management at Centerton had inferred (correctly or incorrectly) that the new corporate top management did not regard the QWL effort with favor, and this perception understandably affected commitment to that effort at Centerton.

2. The new plant had only a few people who were experienced and technically competent in the plant's primary production functions (extraction and processing of biological products). Thus managers and supervisors were occupied with learning to perform the complex technical activities of their jobs and had little time to develop new management styles or commit themselves to the QWL program.

3. Because of severe financial problems at the time the new management took over the company, there was great pressure for cost cutting and for getting the plant into

production as quickly as possible. Start-up was delayed for four months because of numerous problems. Frequent 12- to 16-hour workdays drained managers' and supervisors' energies.

4. The HIRI project was on a very tight budget, which sharply limited the amount of time the PD and PI could spend at the plant.

5. Prior to the beginning of the Centerton project the HIRI PI had accepted a scientific exchange fellowship in the U.S.S.R., scheduled to begin July 1, 1974. The date appeared compatible with the original plans for plant start-up in January 1974, allowing about six months of consultation during the start-up and the early phases of production. However, technical problems delayed start-up until June 1974, and it was not feasible to change the PI's fellowship arrangements made by agreement between the National Academy of Science and the Soviet Academy of Science. Although the PD tried to substitute for him during this period, he had not had time to establish close relationships with Centerton staff, and the budget would not support frequent travel between the PD's Los Angeles office and the Centerton plant.

Synopsis of What Has Been Learned

Regarding Effects of a QWL Program:

1. Participation by employees in certain types of policy making, such as "rules of conduct" for operation of the plant, seems to enhance compliance with these policies, and to foster a positive attitude toward the company by conveying the idea that employees are trusted by management.

2. Good interpersonal relationships based on trust, mutual respect, and a consequent openness between supervisors and employees seem to foster a congenial tolerance for delay and for problems. Also, receptiveness to employees' suggestions and implementation of those considered by management as sound, encourages a generalized positive attitude toward the work and more creative thinking about it. Conversely, poor interpersonal relationships at any level seem to decrease the energy that individuals can make available for productive work.

3. There is a strong likelihood that overly high or idealistic expectations may be created at the outset of a QWL program. Failure to meet these expectations then creates disappointment in management.

Regarding Implementation of a QWL Program:

1. Company personnel should see the QWL program as "theirs," and not as something done for them by outsiders. To develop internal advocacy, it may be helpful to establish an in-house steering committee, composed of representatives from all departments and levels of the organization. This committee would review progress toward QWL objectives, examine difficulties in program implementation, and perhaps suggest appropriate program modifications. In addition, the committee would attempt to facilitate company-wide understanding of the QWL program and consulting interventions.

2. A specific, understandable, and clearly communicated program is essential. Delineation of responsibilities among consultants and management should be arranged at the outset. If there are expectations for the commitment of managers and supervisors to certain aspects of a particular managerial style, such expectations should be made explicit--and degrees of freedom for individual managers and supervisors to deviate from any such expectations if deemed appropriate under certain conditions likewise should be made explicit.

3. If a consultative or participative management style is to accompany a QWL improvement effort, all concerned should understand that technical problems may be handled differently from matters of general management, personnel relationships, and provision of a good working environment. Experience suggests that a significant line of demarcation exists between these two areas; technical problems that are encountered normally require a highly specialized and disciplined approach taht involves particular expertise and experience. Thus it may not always be realistic to involve groups of people or invite extensive participation by those who cannot contribute significantly to the resolution.

4. Ambiguity about corporate support is an inhospitable condition for the establishment of a QWL program. Other adverse conditions include times of crisis (such as may be occasioned by certain start-up situations), and low levels of technical or managerial skills among persons in key managerial roles.

5. Managerial modeling is likely to be one of the most important factors for successful program implementation.

6. Training programs should give strong emphasis to teaching skills for effective leadership in meetings. Teams, ad hoc committees, or task force groups are frequently used in the various aspects of a QWL program; well-managed

meetings are critical to sustaining enthusiasm for group efforts.

7. Some personnel may perceive a conflict between QWL goals (e.g., about motivation and meaningful work) and production goals (e.g., about rates of product output, or procedures). It is important to discuss these perceptions and clarify the complementary relationship between QWL pursuits and satisfactory production results.

8. Contingency plans are needed for the QWL program as well as for other business functions.

9. Frequent review and rethinking of the QWL program and its effects are essential. When outside consultants and internal staff of an organization are engaged in a joint venture for improvement in QWL and productivity, periodic formative evaluation (such as every 3-4 months) should be undertaken regarding progress toward the agree-upon goals of the program. This should be followed by feedback to all concerned plus an understanding that there will be prompt follow-up review coupled with any "course corrections" that may seem needed. If an independent summative evaluation is planned, that should not replace or get in the way of periodic formative evaluation efforts by the company and consultants.

10. The financial reward system should be used to support the implementation of the QWL program.

11. A feedback system needs to be established to provide information about positive and negative outcomes. In an open climate where people are free to voice their suggestions and/or dissatisfactions, negative or problem feedback is in great supply; evidence of positive gain--even when it clearly is being made--is harder to come by. Special efforts should be made to find and report positive feedback so that the group can more accurately assess its programs.

12. Continuity in consulting interventions appears to be an important factor in program success. Since there is always a possibility that consulting personnel may change midstream, the following provisions should be made for role interchangeability between consultants:

    a. Extensive/intensive communication between consultants, to develop consensus on consulting philosophy, goals, and intervention strategies. Such communication would include discussion of proposed and completed interventions in terms of rationale, expected/actual outcomes, and ways in which interventions might be improved.

b. Development of team relationships with key personnel at the intervention site. This may include efforts to assure that all consultants are drawn into agreements with company staff, and that interventions are viewed as group, rather than individual efforts. Where frequent face-to-face communication is not possible (because of such factors as geographic distance from site), relationships may be maintained by telephone and written communication.

I. OVERVIEW: CONCEPT OF THE QUALITY OF WORKLIFE PROJECT AND THE VIEWPOINT OF THIS REPORT

Introduction

Crown Medical Specialties Company, a medium-sized multi-plant pharmaceutical firm headquartered on the West Coast, has been involved since late 1972 in the planning and start-up of a new and technically complex production facility in Centerton, a town in the Southeastern U.S. During this time the corporation experienced severe financial problems, and in February 1974 was bought by a foreign multinational company.

There have been more technical troubles in getting the new plant started than would usually be anticipated. Centerton (C/C) was designed to improve and further refine an already sophisticated technology. The company's financial difficulties have affected the decisiveness and clarity of planning. Despite these handicaps, this new plant of 130 employees during the period covered in this report (1973-1975) has--to the credit of all who have been involved:

(1) exceeded corporate projections for productivity;

(2) achieved an absentee rate approximately half of the regional average;

(3) met federal standards to qualify for the production of difficult-to-control biological products within less than five months after start-up; and

(4) developed (for the most part) a labor force manifesting high employee morale and satisfaction, with commitment to company goals.

The expression "quality of worklife" is a generic term for efforts that address improved work experience for the individual employee. QWL interventions also are expected to contribute positively to organizational effectiveness and productivity. Methods for effecting desired changes include systematic analysis and design of the work itself, of the work environment, and of the administrative or managerial style. Broadly speaking, the QWL concept acknowledges the complex interactions between social and technical systems in the workplace, moderated by individual differences in terms of needs, desires, or readiness for larger job responsibilities.

Glaser (1974) explains the basis of a QWL program as follows:

> The absolutely essential component of any QWL program is real and ever-present opportunity for individuals or task groups at any level to influence their working environments; to have some "say" over what goes on in connection with their work. This, in turn, requires an organizational climate and structure that really encourages, facilitates, and rewards questions, challenges, or suggestions related to improving the existing *modus operandi* in any way. It also requires expeditious, respectful, appropriate response to such inputs.
>
> Thus, a style of management that invites participation or consultation from members of the workforce on matters which affect them and with regard to which they might have some pertinent ideas is an essential condition for a QWL program. It is this style that tends to increase the *psychological meaningfulness* of work. At the same time it provides the climate and springboard from which a large variety of other improvements in the design, conditions, and performance of work can be developed (p.3).

Crown Medical Specialties Company and QWL Interest

During the early planning stages for expansion of production facilities, recommendations from Edward M. Glaser, long a consultant to the firm, led CMS's management to become aware of nontraditional ways of organizing work, and to investigate certain other companies' experiences with QWL programs. Through this exploration, CMS's manufacturing executives became convinced that the management style which would be developed in a QWL program, and the job arrangements and work environment which would be created, constituted sound business practices. Such a program was perceived as a promising way of managing that could be expected to lead to an effective operation, freer than alternative ways from dysfunctional adversary relationships, and supportive of high-quality output of the organization's products or services.

At the time of these early planning stages, manufacture of disposable hospital equipment as well as biological products was contemplated for the proposed new plant that was ultimately destined to serve as the site of this project. The production of this type of equipment is largely an assembly line operation involving considerable task repetition, and even menial manual activities. In operations of this nature it traditionally has been difficult to maintain high levels of employee productivity, job satisfaction and morale. However, this type of work environment also has proved to be susceptible to successful application of

QWL principles. In fact, CMS management had instituted on a more informal basis many of these same QWL principles in a separate and temporary facility for disposable equipment production at one of its manufacturing locations. The operation seemed to respond quickly and positively to this approach, and management viewed QWL as worthy of expanded application.

A corporate decision finally was made that the new plant facility would be limited initially to production of biological products used in human care. Contrasted with disposable hospital equipment, biologicals represent a totally different type of product, requiring meticulous control at all levels and stages of production. In addition, governmental controls and regulations enforced by the Food and Drug Administration and Bureau of Biologics dictate in great detail what must, and what must not, occur during the production cycle. These factors were perceived by company management to be a potential barrier to total QWL implementation. But with a good, if limited, experience behind them, and the assurance of continued expert support from the consultant team, the company agreed to proceed with a QWL program at the new plant.

The QWL Research Project

After the corporation had decided to expand with a new plant rather than add on to one of the company's existing facilities, and to manage it in accordance with a QWL philosophy, to the extent appropriate and feasible in relation to explicit FDA-BoB production, processing and quality assurance requirements, Dr. Glaser proposed to the U.S. Department of Labor (DOL) that they consider using C/C as a research site to test the presumed relationship between QWL and productivity. DOL offered to support this project through a research grant to the Human Interaction Research Institute (HIRI). When funded, C/C's QWL activities became identified as "the QWL project." This term was used to encompass the company's QWL efforts and the consultants'* interventions, as well as the research and evaluation components of the grant.

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*The consultants referred to here are Edward M. Glaser, PhD, Project Director (PD); Carroll E. Izard, PhD, Principal Investigator (PI); and Mary Faeth Chenery, M.M., Participant-Observer (P-O). Drs. Glaser and Izard are by profession clinical and organization development psychologists. Dr. Izard, an associate of Edward Glaser & Associates, previously had consulted with one of the company's other plants, also located in the Southeast. Ms. Chenery holds a Master's degree in Management. Vitae and a brief statement about each of the consultant's orientation toward an effort of this type may be found in Appendix G.

The hypothesis of the study can be stated as follows: If an organization operates according to QWL guidelines (as described herein), productivity and job satisfaction are likely to reach and be sustained at a higher level than would be achieved under traditional operating arrangements. Specifically, HIRI's aims from the QWL project were:

1. To intervene through training, modeling and consulting to create a QWL program affecting all personnel in the C/C plant.
2. To ascertain the impact of a certain type of organizational development (OD) consultation offered to the management and employees of a new plant; further, to compare the new plant with another plant in the same company manufacturing similar products, which was not explicitly organized on QWL principles. The measures would be those of plant performance (productivity) and of job satisfaction (morale).
3. To observe and document the process of a new plant's getting into operation, meeting problems and learning to function effectively as it matured; and especially to demonstrate what happened as a consequence of particular consulting interventions made under given conditions.
4. To draw whatever generalizations or hypotheses for further study may seem warranted.

Explicit Theory for the HIRI Intervention at C/C

The basic principle for the design of the C/C QWL program was the link between participation and motivation. Inviting and obtaining participation from people on matters that affect them and to which they have the ability to contribute was expected to increase the psychological meaningfulness of the work, elicit ego-involvement, and so make them "industrially active" rather than "reactive" (Allport, 1945).

With the construction of a new plant, Crown had the opportunity to design the jobs with consideration for a theory of job enrichment. The primary job design guidelines as adapted for the Centerton project were as follows:

(1) a job should include production of a whole or substantial part of a product if feasible;

(2) where appropriate, jobs should be grouped into teams;

(3) jobs should (insofar as practicable) be designed to have a high degree of variety and challenge; and

(4) where possible, doing the job itself should provide feedback to the employee about his or her performance.

The work of Hackman, et al. (1974) presents a model which describes the relationship of these guidelines to motivation theory. The underlying condition, however, was that the plant be operated and structured in ways which would permit cooperative problem solving by the participants.

The development of further aspects of the C/C intervention proceeded from logical extensions of the principle of participation. For example, in order to attain participation from employees, there must be adequate communication up, down and laterally about matters that affect the workforce. Suggestions for improvement of any kind need to be rewarded through thoughtful, prompt review leading to adoption, modification, or rejection with reasons explained.

Success for the QWL program would be heavily dependent on the actions of managers and supervisors; they would have to provide the opportunities and conditions for employees' participation. It was for this reason that most consulting activity at Centerton was directed toward managerial and supervisory behavior.

At C/C, initial approval and support for the project came from top managers, i.e., the vice-president for manufacturing and a few other key persons at corporate headquarters. The plant manager, the production manager and the personnel manager at Centerton, who were selected in 1973 before the plant opened, and who participated actively in the design of the work planned for Centerton, were highly supportive of the QWL project. We felt that support from the new C/C supervisors and managers would be generated by involving them in the further design and extension of the program.

Another aspect of implementation was to encourage formative evaluation by the C/C staff themselves through having each functional department and the top management group as a whole pause for frequent review of operations in relation to goals and ask themselves, "How are we doing, and what is called for in order to do better?" The philosophy behind this was that excellence in performance of almost any kind can be facilitated by a nondefensive, constructively self-critical style that would implement the slogan reputedly posted in Thomas Edison's laboratory: THERE IS A BETTER WAY--FIND IT! At C/C, the consultants introduced the words kiem tau to connote a meeting aimed at assessing "where we are" in relation to agreed-upon goals, and what might be needed either in terms of goal revision or program/procedure change in order to function ever-better. The kiem tau came from a research effort during the Vietnam war to interview Vietcong prisoners by having them recount what they had been doing in the hours and days immediately preceding capture. Frequently they would report, "And then had kiem tau..." meaning that upon completion of a given mission, those involved would get together at a pre-arranged place to do a "post-mortem" on their performance in the spirit of trying to learn how to do even better next time.

HIRI's involvement in implementing change at C/C took place through periodic consultation and through participant-observation.

"Participant-Observers study a process or environment by observing and experiencing it in depth" (Glaser & Backer, 1973, p. 46). The P-O may produce change by being on the spot as events unfold and by questioning, offering feedback, suggesting alternative solutions, and, at times, by formal instruction. Glaser and Backer point out that the method of participant-observation is appropriate where provision of constructive feedback is a foremost concern; it is also helpful in evaluation research where a rich and comprehensive view of a program or project is needed. Frequent contact and the development of trustful relationships with the P-O may provide more thorough data--and data otherwise unavailable--about the change process. On the other hand, such engagement with the environment threatens the researcher's objectivity. Analysis of data generated by a P-O presents difficulties, especially because of the personal nature of perceptions and observation (Glaser & Backer, 1973). The consultants who worked with C/C on a periodic basis and who were less engaged in the ongoing process could provide a balance to the inevitable subjectivity of the P-O.

ISR Involvement

At the request of DOL, an independent evaluation of the HIRI intervention and the C/C experience and outcomes was assigned to the Institute for Social Research (ISR) at the University of Michigan. The comparison data-gathering became part of the ISR research requirement. "Hard" data to substantiate or disprove the hypotheses will thus be a part of the ISR report. Among the performance factors to be measured by ISR are: productivity, quality, absenteeism, labor turnover, labor grievances, amount of down-time (after initial "debugging" of new equipment) due to theoretically avoidable mechanical difficulties, and employee job satisfaction. HIRI has worked cooperatively with ISR by advising ISR in advance of every visit by the consultants, inviting ISR representatives to sit in on key HIRI interventions, training workshops, and on meetings with individuals when this seemed appropriate and satisfactory to the client.

ISR has used pre-employment questionnaires, monthly surveys, a long questionnaire administered annually, termination forms, onsite observations every two weeks, and interviews to gather information for its evaluations. The Michigan researchers have tried to avoid intervention, but of course their presence has had an effect in the plant. One effect was to make visible the departments where job satisfactions seemed to be relatively high or low. With questionnaires to everyone and subsequent monthly feedback to each department, ISR has at times been more visible and more widely known than the HIRI P-O, which may have served to attenuate her influence to some degree.

HIRI's record will be descriptive and clinical rather than statistically evaluative with regard to the interventions and the plant's development and outcomes, except for one invited quantitative rating of the impact of the HIRI intervention on the stated QWL objectives. This rating--by the plant's managers and supervisors--was completed approximately six months after termination of the intervention.

Comparison Study

An important part of the research design was the opportunity for a comparison study with CMS's headquarters plant. Measurements on the same dimensions in two plants producing some of the same products, one operating in a traditional management style (headquarters plant), the other operating according to relevant QWL improvement principles (Centerton), were expected to provide data bearing upon the project objectives.

It should be noted that there are differences between the two plants. For example, the headquarters plant is located in a large metropolitan area on the West Coast; the Centerton plant is located in a rural area of the South. The company's headquarters operation is large--several hundred different products are manufactured there. The Centerton plant is much smaller by comparison--as of July 1975, only a group of four biological products have been approved by the Bureau of Biologics for manufacture there. The equipment at Centerton is more modern, although not necessarily better. Certain parts of the manufacturing process at Centerton have been modified and are experimental in some respects, representing design engineering efforts to improve upon certain aspects of the headquarters plant's process. The headquarters plant is unionized; Centerton is not.

These factors were anticipated to have some bearing upon operational performance, "climate," and job satisfaction comparisons between the two plants as related to their traditional versus QWL work structure setups. Nevertheless, the QWL project has provided an opportunity to study the nature of an evolving new work organization and to learn more about QWL interventions.

A development unforeseen at the time the project was planned has been that some of the QWL concerns seemed to have taken firmer root in the quality assurance group than in the production group. Perhaps a more meaningful comparison of differences in sustained attention to QWL concerns can be made between these two groups in the same plant than between the Centerton and headquarters plants. More on this later.

With regard to the union aspect, it proved quite possible for Edward Glaser & Associates to develop a small QWL consulting project with one department in the headquarters plant in 1965-66. The particular union there is a strong and secure one, and felt no threat in management's dealing directly with the workers on QWL improvement questions. In another of the company's plants, however, with a different, smaller and weaker union, a new union regional representative invalidated an agreement made with her predecessor in that role to work with management on QWL efforts. She threatened the company with an unfair labor practice suit unless the company stopped the program, stating that many of the ideas brought up for discussion had to be channeled through the collective bargaining machinery.

Thus, whether the presence of a union in a situation where a QWL program is being considered can be assessed as a help, a hindrance, or neutral would seem to depend on the union, the particular individuals involved, and the way the situation is handled by both the company and the union.

Viewpoint of This Report

This report is derived primarily from the diary, observations, and records of the participant-observer, the activity reports of the consultants, from the C/C staff's comments and perceptions in review of this report, and from company documentation. In light of the objectives of the research, the narrative will emphasize HIRI's inverventions, C/C's reactions to them, and the resultant outcomes.

Writing about history is a difficult, selective task. As in world history much is written about wars, so in organizational history much is written about problems. In this paper, we shall try to keep the successes and achievements in mind. The latter are harder to find out about than problems, so the imbalance portrayed may exaggerate reality.* As well, much of the richness and complexity of the vital experience of birth and growth of a new plant has not been captured, but we hope to suggest some of the depth and intricacy of the three years' experience.

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*The Centerton personnel manager commented as follows at this place in his editing: "But the report overall tends to be far too negative, whereas we had and still have many successes! Some of these are now dissipating due to lack of emphasis and attention needed to keep them 'alive and well'."

II. SELECTED LITERATURE REVIEW

> Few themes recur more frequently in management literature, few problems face the practicing manager more persistently, few topics generate more debate, and few areas of management more urgently require a unified treatment than the related issues of job satisfaction, productivity, and organization design (Cummings, Molloy, & Glen, 1975, p.52).

The National Science Foundation, in agreement with the observation cited above, recently funded studies by three independent interdisciplinary teams of behavioral scientists (Cummings, Molloy, & Glen; Brower & Associates; Katzell & Yankelovich) to study the relationship between work, productivity, and job satisfaction. A question posed by NSF was: How do we increase both productivity and job satisfaction? Essentially, all three NSF-funded studies consisted of research on research--careful, comprehensive literature review and interpretations thereof; they did not undertake experimental or action research of their own. Glaser (1974) in a study funded by the Office of Manpower Research and Development, U.S. Department of Labor, addressed essentially the same set of questions from a case study approach of reported successes and failures in public and private sector organization efforts to improve the quality of worklife, and in the process to improve productivity. (The 1974 Glaser report has since been revised considerably and is scheduled to appear as a book in the Spring of 1976.) Other researchers--e.g., Blumberg (1968), Davis (1972), Hackman (1975), Herzberg (1966), Vroom (1969), Walton (1974), Work in America Task Force (1972)--also have delved into these questions.

It would appear that all of these investigators would tend to agree with Mitchell Fein (1974) that "The most effective productivity results will be obtained when management creates conditions which workers perceive as beneficial to them."

A responsive work climate which demonstrates openness to suggestions and to considering alternative ways of doing a task tends to encourage people to think creatively about the work, to become involved or "industrially active," in McGregor's terminology. Richard Cornuelle (1975) makes a useful distinction between managing with such openness and without:

> Management which manages by specifying behavior is dehumanizing and inefficient. Management which manages by specifying results is emancipating. It opens to all the possibility of inventiveness and resourcefulness...It is highly productive, because it tends to release the full potential of people, rather than some predetermined and necessarily deformed fraction of that potential (p. 50).

Katzell and Yankelovich report that "Giving workers more 'say' ...usually has favorable effects...on productivity...when the scope of influence includes goal setting, work methods, and compensation methods."

Glaser (in press) indicates that:

> Five of the most important conditions for the sustained success of Quality of Worklife (QWL) improvement programs from which there is likelihood that productivity gains also may emerge are: (1) giving all employees in a given organization or whole segment thereof an opportunity to have a meaningful voice in decisions about the design and structure of their work; (2) providing sustained support of the QWL efforts by the organization's leaders; (3) involving the line organization in designing and then assuming responsibility for the program as theirs (rather than the staff's or consultant's) so that they perceive it essentially as just a better modus operandi for human resource management which in turn is likely to result in better mission performance; (4) working out specific, difficult, but definitely attainable goals with task groups or individuals wherever this is feasible, plus a system of rewards for goal attainment, plus an adequate training program--then providing structure and frequent timely feedback to let all concerned know about progress and problems; (5) monitoring or auditing in helpful rather than "snoopervisory" ways to assist in problem solving and to assure high standards of performance.

A supporting rationale for the present study has been offered by Gordon Allport (1945), who suggested a foundation in psychological theory for pursuing the relationship between "quality of worklife" and the general quality of life in our society:

> When the work situation in which the individual finds himself realistically engages the status-seeking motive--when the individual is busily engaged in using his talents, understanding his work, and having pleasant social relations with foreman and fellow worker--then he is, as the saying goes, "identified" with his job. He likes his work; he is absorbed in it; he is productive. In McGregor's term, he is industrially active. That is to say, he is a participant.
>
> When, on the other hand, the situation is such that the status-motive has no chance of gearing itself into the external cycles of events, when the individual goes through motions that he does not find meaningful, when he does not really participate--then comes rebellion against authority, complaints, griping, gossip, rumor, scapegoating and disaffection of all sorts. The job satisfaction is low. In McGregor's term, under such circumstances the individual is not active; he is industrially reactive.

> ...The problem before us is whether the immense amount of reactivity shown in business offices and factories, in federal bureaus and schools, can be reduced... We are learning some of the conditions in which reactivity does decline... Patronizing handouts and wage-incentive systems alone do not succeed. Opportunities for consultation on personal problems are... found to be important; and group decision, open discussion, and the retraining of leaders in accordance with democratic standards yield remarkable results... In other words, a person ceases to be reactive and contrary in respect to a desirable course of conduct only when he himself has had a hand in declaring that course of conduct to be desirable. Such findings add up to the simple proposition that people must have a hand in saving themselves; they cannot and will not be saved from the outside.(pp. 18-19)

The question is how to translate Allport's insights into common management practice. How, in other words, can we arrange work situations in ways that will motivate individuals and task groups to become ego-involved in caring about relevant goal attainment and effective organizational performance?

Managements seeking improved organization performance through job enrichment, human resource development and "humanizing of work" have generated a varied range of innovative programs for improving QWL. When such programs are applied planfully and skillfully under certain favorable conditions which have been identified by Brower (1974), Glaser (1974), Walton (1974), Hackman (1975), Katzell and Yankelovich (1975), and Srivastva et al. (1975), both job satisfaction and productivity are likely to be enhanced.

Problems and Opportunities in Implementation

Where QWL improvement efforts have failed, the failures of intervention seem to be related more to the implementation of the program than to its conception. The planned change may not in fact be effected (Frank & Hackman, 1975), or perhaps the change is not supported by key personnel, and thus falters (Glaser 1974; Hackman 1974b). Generally, offering employees a meaningful say in their work seems to increase motivation to do the work and commitment to doing it well (Katzell and Yankelovich, 1975). Increased motivation and commitment, in turn, contribute to reductions in employee turnover, absenteeism and grievances, and tend to facilitate creative problem solving and improved organizational efficiency (Glaser in press).

Concomitant personal gains from QWL programs have been reported in case studies--gains such as greater job satisfaction, greater autonomy, freer expression, increased feelings of self-worth, reduction in mental and physical illness and more opportunity to broaden skills. Provision for direct sharing in cost-savings benefits obviously offers additional incentive for sustained worker interest in such programs (Glaser, in press; Rosow, 1974; HEW Task Force Work in America, 1972).

On the other hand, not everyone responds favorably to QWL improvement efforts (Hackman, 1975; Glaser, in press). Expectations may outstrip performance, leading to disappointment. Individual differences with regard to one's desire for greater group and personal responsibility may lessen the apparent job satisfaction of some. As Michael Brower (1974) expresses this experience:

> Efforts to improve the quality of working life, especially those relying heavily on employee participation, are likely but of course not certain, to lead to increases in productivity and to cost savings. But they may not lead to increases in "job satisfaction" narrowly defined, since aspirations of workers may be raised more rapidly than fulfillment, with a resulting decline in some measures of satisfaction (p. 25).

Research studies by Oldham, Hackman and Pearce (1975), Brief and Aldag (1975), Hackman and Lawler (1971), Hackman and Oldham (in press), suggest that individuals who feel a high need for personal growth and development at work tend to respond more positively to enriched jobs than people with low growth needs--apparently because high growth need individuals more strongly value the internal rewards that can be obtained from good performance on a challenging task. Another contextual factor that may moderate the effect of enriched work "is the degree to which the immediate work environment is satisfying to employees. Specifically, when employees are not satisfied with their pay, job security, co-workers and/or supervisors, their ability to respond positively to a job high in objective motivating potential may be severely diminished" (Oldham, Hackman & Pearce, 1975). Thus, there appears to be a threshold which needs to be achieved to satisfy what Herzberg (1966) would call the "hygiene" factors before the intrinsic-to-the-job "motivators" such as opportunity for achievement, recognition for that achievement, responsibility, advancement, etc., can take effect in the sense of enhancing ego-involvement in one's work.

III. CORPORATE STRUCTURE AND THE PLANT

The Corporation and Its Products

CMS was a long established family-controlled firm until February 1974 when it was acquired by a foreign corporation. The company's main product lines are pharmaceuticals, disposable medical equipment, biomedical materials, veterinary products and consumer items. The company is now a world leader in the production of certain biological products.

The Centerton plant was built to increase biological processing capability, although expansion into other product lines was expected. There are other plants in the corporate system. Of these plants, only the ones at headquarters and Centerton produce biological products. Numerous other products are manufactured at the headquarters plant, where the corporate home office also is located. The branch plant managers report to the vice-president of manufacturing, although in the Centerton plant's early stages the plant manager reported to the chief engineer.

The Plant - Production Setting

Plant layout includes four separate buildings (Administration/Warehouse, Quality Assurance (QA) laboratory, Engineering and Maintenance (E/M), and the Production facility), joined by long corridors. It is an exceptionally large plant, and the distances make rapid communication difficult. There is limited access to most areas in the production building because of sterility requirements and contamination dangers. Production supervisors' offices are in a restricted area, and their department managers' offices are in the unrestricted section. Physical and procedural barriers hinder their frequent face-to-face communication.

Some sources of work pressure are that certain of the work rooms are very cold; that employees are acutely aware of their responsibility to maintain sterility of the product; that employees are aware of the potentially disastrous consequences of mistakes. They are working with very expensive raw material which is at the same time very delicate; a slight temperature change can destroy thousands of dollars of product in a very short time.

Extraction

The extraction process separates the raw material into its many components in order to use the scarce source material more efficiently. The production technology itself is complex and proprietary. Substantial on-the-job training is required for supervisors as well as for technicians and operators.

A minimum of three months of processing and testing is required before the finished product is ready for sale. Raw material arrives at the plant frozen, and the production process begins under carefully controlled conditions. A team of five members handles this portion of the process. Their work is supervised by the extraction supervisors on a rotating basis.

The extraction teams process the liquified material to the various powdered components. Their work involves the complicated tasks of production, equipment maintenance, and record keeping. Each team, consisting of six persons and a supervisor, works 12-hour shifts (four days one week, three days the next) and alternates monthly between day and night shifts.

The dry powder is delivered to the Filtration and Filling department, where it is dissolved and treated, then sterile-filled into bottles, pasteurized, and incubated. Each team handling this part of the process consists of four members, plus a supervisor, working three shifts, five days a week.

After incubation, each product lot is "finished"--that is, inspected, labeled and boxed, then placed in a holding area for final release. The day shift packing operation is the job of an "extended" team: a group of five full-time finishing operators helped by 13 part-time operators. Once released (approved by QA and the FDA's Bureau of Biologics), the product is moved to the shipping area of the warehouse for distribution.

Effect of QWL Considerations on Layout for the Plant

A question has been raised about whether the original planning for Centerton to facilitate the organization of work by use of small task teams and job enrichment concepts actually resulted in any differences in designing the plant, compared with the way it would have been designed if there had been no plan for a special QWL project.

As already stated, the projection for this new plant was that it would manufacture disposable equipment (DE) and biological products. The engineering layout for the DE portion of the plant definitely was influenced by the concept of avoiding the long, continuously moving conveyor belt with a line of workers standing alongside, each doing his/her small assembly task, while the product moved automatically to the next person in line to do his/her thing. Instead, influenced by Volvo, Saab-Scania, Procter and Gamble, Donnelly Mirrors, and other firms whose QWL efforts have been reported, the DE portion of the plant had rooms on the drawing boards to accommodate only a limited number of people (15-25) who would form identifiable task teams responsible for producing or assembling an entire product or related line of products. Or, if the product they were working on needed to be broken down into sub-assemblies, Group A would deliver their sub-assembly to Group B, who would add their segment, deliver what they now had to Group C, etc., until there was a finished product ready for final inspection and shipment. The parent group would purchase sub-assemblies from sub-assembly groups.

When it was decided later that Centerton would not make disposable equipment, at least upon plant start-up, but would concentrate only on an expanding line of biological products, the DE segment of the plant was held in abeyance, and the drawing-board plans for DE were not implemented.

The extraction and filtration technology in biological production is not an assembly line operation, and those procedures are tightly controlled by BoB requirements. Thus the QWL/job enrichment concepts had little or no influence on engineering design per se for that portion of the plant. The QWL concepts influenced the way people were organized, and the manner in which they would be consulted or invited to have a "say" in the division of labor to get the necessary work done.

The filling operation (including labeling, etc.), for reasons of efficiency as well as sterility, needs to be a repetitive machine operation tended by people. Thus, the engineering layout for this operation was not materially affected by the QWL planning. However, the staffing of the task, such as the use of 13 part-time operators who performed other tasks with the remainder of their time, was influenced by QWL concepts.

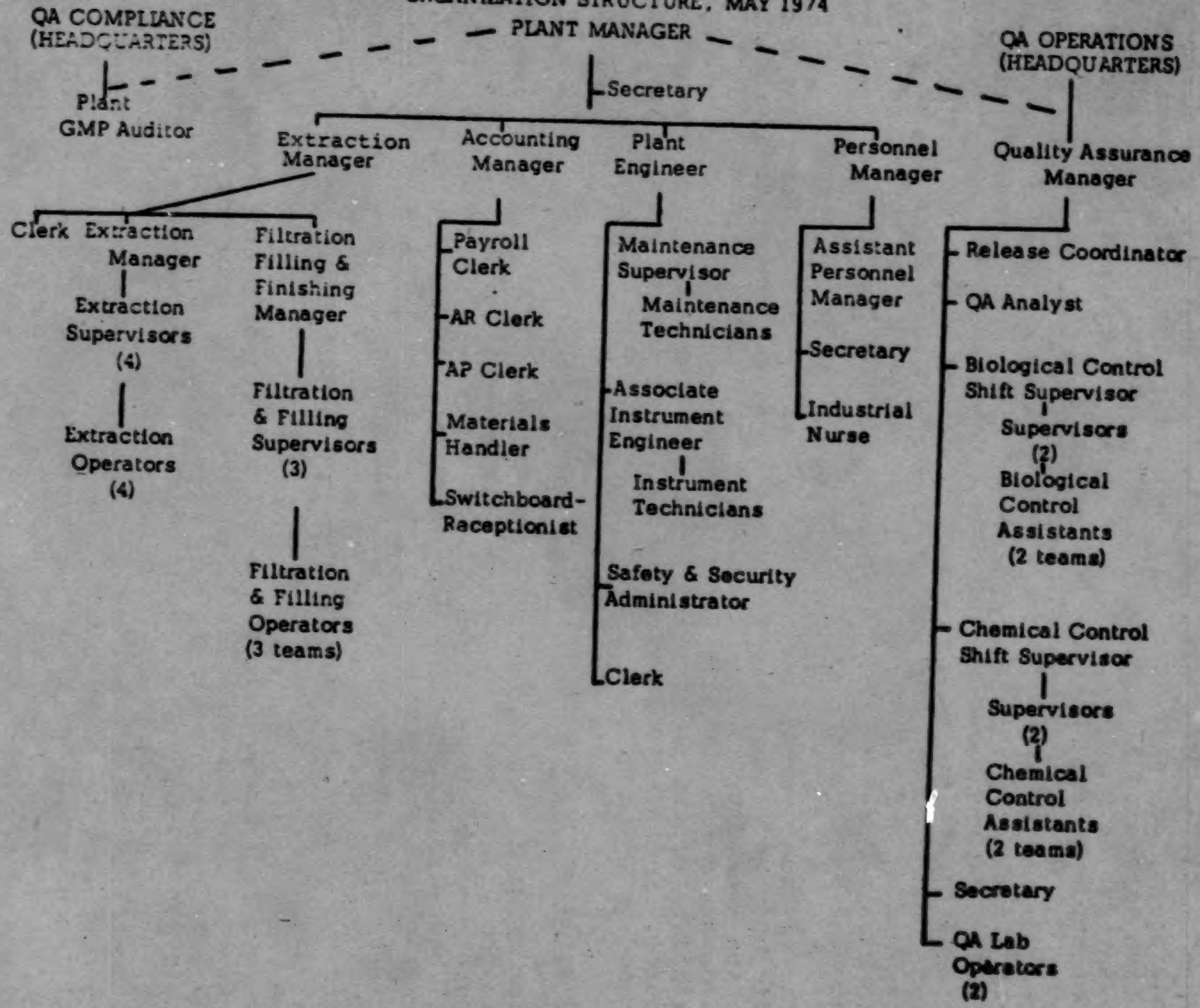
Overall Organization Structure at the Plant

The original design for the plant's management structure was created in the headquarters under the assumption that rapid growth in the number of different product lines would soon occur at the plant. In light of this assumption a relatively large plant management group was employed: plant manager, production manager, extraction manager, filtration manager, quality assurance manager, accounting manager, personnel manager, a management-level specialist in good manufacturing practices, and an engineering and maintenance manager. (See Figure 1)

The QA department comprises about 25% of the plant population and one-third of the managerial and supervisory personnel. Its biology laboratory is responsible for environmental monitoring (e.g., water, air, facilities cleanliness) and for product testing for sterility, potency and pyrogenicity. The biology assistants go into production and other plant areas to do sampling and may frequently have contact with production technicians. The chemistry section tests raw material, in-process, and final product samples in the laboratory. The QA analyst and his assistant function as inspectors during the final packaging operation and sample and test raw materials. The release coordinator oversees the gathering of supporting documents about the processing and testing of every product lot, assuring that all regulations are met before allowing shipment of the product. In addition, an independent auditor works to insure compliance with good manufacturing practices (federal standards).

FIGURE 1

ORGANIZATION STRUCTURE, MAY 1974


PLANT MANAGER
Secretary
QA COMPLIANCE (HEADQUARTERS)
Plant GMP Auditor
QA OPERATIONS (HEADQUARTERS)
Extraction Manager
Clerk
Extraction Manager
Extraction Supervisors (4)
Extraction Operators (4)
Filtration Filling & Finishing Manager
Filtration & Filling Supervisors (3)
Filtration & Filling Operators (3 teams)
Accounting Manager
Payroll Clerk
AR Clerk
AP Clerk
Materials Handler
Switchboard-Receptionist
Plant Engineer
Maintenance Supervisor
Maintenance Technicians
Associate Instrument Engineer
Instrument Technicians
Safety & Security Administrator
Clerk
Personnel Manager
Assistant Personnel Manager
Secretary
Industrial Nurse
Quality Assurance Manager
Release Coordinator
QA Analyst
Biological Control Shift Supervisor
Supervisors (2)
Biological Control Assistants (2 teams)
Chemical Control Shift Supervisor
Supervisors (2)
Chemical Control Assistants (2 teams)
Secretary
QA Lab Operators (2)

The QA managers and supervisors frequently function as consultants to the production and E/M departments as problems arise or changes are considered. There is a natural tension between these latter departments and the QA department in part because the QA manager has the power to stop production and in part because the QA personnel are perceived as having "the easy life": a one-shift operation with sufficient staff, properly functioning equipment, and without the kind of pressure or urgency felt in production or maintenance.

The E/M department is responsible for buildings, grounds, utilities, and equipment maintenance. Complex refrigeration, steam, and sterile water and air systems must be kept functioning at all times. A number of the maintenance and instrument technicians have specialized training. This department has been overwhelmed with work orders since first moving to the plant site. Even basic construction remained to be done after the move in some plant areas. When coupled with machinery check-out, repair, and, occasionally, redesign, the burden on the manpower and the administration of this department became quite a difficult problem.

The accounting department, personnel department, and the plant manager's secretary complete the company staff. This group of 11 works during the day shift in the Administration Building and is generally thought of as the people "up front." Many members, though, do get out in the plant--sometimes to get information needed for their work, other times to help in the finishing operation or just to learn about the rest of the plant.

The entire plant was conceived of as one team with common goals. Each department also consisted of one or more teams, with the exception of engineering. The nature of engineering and maintenance work generally required the technicians to work individually or in pairs. Thus, team organization was not emphasized in that area of work.

A number of changes in organization structure came about during the project's course. They will be described in later sections of this report.

Geographic and Personnel Characteristics

The Centerton plant is located in a rural area in the southeastern U. S. It is approximately 20 miles from the nearest large city, which has a population of 150,000. Centerton's population is a little over 3,000. Many of the managers and supervisors have moved to the area from out of the state, generally from a more urban setting.

Most of the plant production jobs require completion of high school, while management or supervisory positions require substantial biochemical training. The production process is very capital-intensive; the plant, in spite of its size and complexity, can be operated by about 130 people (29 of whom are managerial or supervisory personnel). The following table provides descriptive data regarding Centerton personnel.

C/C Employee Breakdown

As of 10/28/75

(some employed only part of 10/75)

CLASSIFICATION	N	%
Hourly Production Employees:	65	47.8
Management (Supervisors/Managers):	28	20.6
Administrative (or Other):	43	31.6
TOTAL:	136	
Age Ranges:		
18-20	4	2.9
21-25	50	36.8
26-30	38	27.9
31-35	18	13.2
36-40	8	5.9
40+	18	13.2
TOTAL:	136	
Sex:		
Total Male:	86	63.2
Total Female:	50	36.8
TOTAL:	136	
Education Level:		
Non-H.S. Grad	5	3.7
H.S. Grad	53	39.0
1 Year College	9	6.6
2-3 Years College	28	20.6
4-Year College Degree	33	24.3
Post-Graduate	8	5.9
TOTAL:	136	
Ethnic Composition:		
Overall Caucasian	116	88.5
Overall Minority	15	11.5
TOTAL:	131	
Non-Exempt Caucasian*	30	75.0
Non-Exempt Non-Caucasian*	10	25.0
TOTAL:	40	

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* Excluding non-exempt office/clerical employees.

IV. QWL EFFORTS AND OUTCOMES

Project Planning and QWL Goals

Initial planning for the plant was handled with the Centerton management group on the West Coast in 1972-1973. A memorandum of understanding in February 1973 established basic agreements between CMS, HIRI, DOL, and ISR about the project. The memorandum states CMS's decision to use a team structure and provide opportunities for job enrichment at the Centerton plant. It confirms plans to use HIRI's assistance in training and HIRI's consultation with the plant manager and personnel manager. In connection with plans to provide technical training for all new employees, the memo adds that two-way communication was to be encouraged and that all employees should be invited to raise questions or offer ideas (see Appendix A).

The C/C project concepts as established with plant management before plant start-up were that:

1. People should have some influence over decisions in the workplace that will affect them. They should have opportunity to participate in constructive problem-solving on matters of legitimate concern. (Or stated another way, the organizational climate should be respectfully responsive to almost anything that employees may suggest for improvement of the work arrangements: then, from such a responsive climate, employee desires for involvement in decisions that affect them, job enrichment if wanted, etc., can emerge and receive serious attention.)*

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*The primary emphasis on creating a "responsive work climate" where desires for job enrichment, small task teams, or other progressive developments can arise and perhaps be fulfilled along the way, rather than attempting more advanced QWL start-up techniques (such as used at the General Foods pet food plant at Topeka or at the Mead Corporation's paper mill at Stevenson, Alabama) has been deliberate. The reasons for this were: (1) a belief by the HIRI consultants that Centerton management was not psychologically or educationally ready for anything more than the three goals stated here; (2) the company's and HIRI's shared perception that the delicate, supersterile, precise temperature and other controls necessary for the manufacture of these biological products required technically trained supervisors (as contrasted with autonomous work groups without clearly designated "supervisors" used in the Mead Corporation QWL project); (3) whatever more systematic QWL approaches might be desirable and appropriate could better evolve over time from the original primary goals, and if they did (or did not) evolve, the "learning readiness" question thereby would be met.

2. As far as possible, the company should provide jobs which will be experienced as meaningful: jobs which have substantial variety, challenge, task identity, task significance, and opportunity for learning.

3. The work force should be well-informed about company events and decisions, and should give and receive frequent specific feedback about job performance and about problems experienced.

In short, the key concepts could be labeled participation, communication, and meaningful jobs. In light of these concepts, the supervisory style which we aimed for in the new plant was that of team leader rather than "boss."

General Consulting Strategy

Following the West Coast basic CMS-HIRI-DOL-ISR agreement about the project, the PI, aided somewhat by the PD, consulted intensively with the Centerton plant manager and the plant personnel manager in planning, selection, and training. The PI visited the plant 15 times between March 1973 and June 1974, the visits lasting between two and three days. The PD visited the plant six times for about two days each time between July 1974 and July 1975, with the March and June 1975 visits made in conjunction with the PI. The P-O joined the HIRI group in October 1973, starting full time at the plant in May 1974.

When the PD visited, he usually flew in on a Sunday, would meet with the P-O (and PI when available) for a planning session that evening. Work at the plant site usually began at 8:15 a.m. the following day, and would continue until about 6:00 p.m., or into the evening on several occasions. The last consulting visit occurred in June 1975, just before the P-O discontinued full-time presence at the plant.

A subsequent visit by the PD, PI and P-O in October 1975 was made to discuss the C/C staff's review of a draft of this report. Another visit was made by the PD and P-O to the corporate office on February 2, 1976, for a meeting with company top management to review and discuss a draft of the final report. A copy had been submitted for this review purpose to appropriate persons at both headquarters and Centerton. The corporate president, vice president for manufacturing, corporate industrial relations manager, and three other persons on the headquarters staff, along with the Centerton plant manager and personnel manager were present. At the conclusion of this meeting, the CMS people were invited by the PD to submit for consideration by HIRI any editing of the report they might deem desirable to improve its accuracy or to give a more rounded description of what took place with reference to the project. This invitation was accepted, and responded to in a comprehensive, constructive fashion. Many of their suggested changes have been incorporated in this final version.

Four major strategies were used to try to attain the QWL goals: (1) training of management and employees; (2) modeling of auto-critical, nondefensive, openly communicative behavior by the HIRI consultant team; (3) observation and feedback; and (4) consulting with individuals and functional groups in pursuit of the QWL goals. The HIRI team was linked to Centerton primarily through the personnel manager in the early months of the project. It was expected that he would nurture the project, particularly through his training responsibilities and by active personal interaction with the people in the plant.

During the training period, HIRI taught and used problem-solving methods for dealing with communications and human relationship problems through nondefensive confrontation of differences or of things that were not working well. The HIRI team supported C/C's efforts by: (1) providing a participative model when at the plant; (2) suggesting alternative ideas and solutions (when we had any to suggest) consistent with QWL concepts; (3) offering observations of group process at various types of meetings; (4) offering observations of a given individual's managerial style; (5) serving as a sounding board and resource for problems that individuals or groups might present to them in their role as consulting psychologists; and (6) counseling personally with the plant manager, the personnel manager, and other key personnel.

Observations and feedback were offered, but it was a deliberate, if tacit, strategy after the training period (usually) to let C/C request consultant and P-O resources rather than to present uninvited proposals for change or development. In this way, whatever was done would legitimately be seen as C/C efforts. Solutions would be attuned to real needs in the situation, and self-reliance would be promoted in the organization as preparation for the eventual withdrawal of consulting resources.

Selection, Training and Initial Effects
February 1973 through mid-May 1974

A timeline of major plant production and consulting intervention events during this period is presented in Figure 2.

Plant Goals

The objective during these months was for C/C managers and supervisors to hire a workforce, complete training and facility preparation, and begin production.

Intervention Focal Points

HIRI's interventions were focused on organization development guided by QWL concepts. This included training in personnel

Figure 2

Timeline of Major Production and Intervention Events, 1973 through May 1974

	1973												1974				
	J	F	M	A	M	J	Ju	A	S	O	N	D	J	F	M	A	M
Basic agreements made between HIRI, CMS, DOL, ISR		x															
HIRI consultation in selection, organization structuring, preparation for training		xxxxxxxxxxxxxxxx															
Managers' and Supervisors' Training Program: HIRI Workshops staffed by PD, PI, P-O										xx		x					
Consultation on interviewing and selection													x				
Foreign multinational company acquires CMS														x			
Production employees first hired														x			
Orientation and Training for New Employees--Team Training Workshops															x		
Expected production start-up delayed															x		
Consultant visit by HIRI PD and PI																x	
P-O begins full-time work in Centerton plant																	x
February 1973 to May 1974 QWL Progress Report prepared																	x
HIRI PI's last consulting visit (with PD) before leave of absence to go to Russia																	x

selection and assistance in working out productive interpersonal relations.

The HIRI group felt that the QWL goals could be achieved only when managers and supervisors were effective in central managerial tasks (e.g., planning, coordinating, basic supervision). During the training period for new supervisors and managers, both HIRI and Centerton top management assumed that all participants had a reasonable managerial competence. The Crown corporate management then provided technical and some supervisory training, while HIRI provided training and assistance in those areas and skills specifically related to the QWL program (description of training workshops follows).

Consulting Styles and Tasks

The QWL project was closely identified through this period with the HIRI PI's consultation. He developed a close rapport and working relationship with the plant manager, the personnel manager, and other key members of the management group. Much of his consulting centered on assisting managers and supervisors in solving problems involving interpersonal relationships (frequently manager-supervisor relationships). Modeling, or the way he consulted, was often as important as the content of his help. This consultant endeavored to demonstrate listening skills, was very open to change, was able to get normally reticent people to make contributions in meetings, and could readily draw and teach principles about behavior from everyday events and problems. He facilitated the resolution of interpersonal differences through modeling nondefensive confrontation.

The P-O, having joined the project during the second training workshop in October 1973, initially served in the role of assistant to the consultants, gradually becoming more of a direct participant and resource to the workgroup.

Consulting Interventions, Outcomes, and the Organization's Development

Selection and training of supervisory personnel. HIRI provided input into the selection and QWL education of managers, and the design of jobs for the Centerton plant while planning still was in progress at corporate headquarters in 1972 and 1973.

When a personnel manager was hired for C/C, the HIRI PI began to work with him in Centerton. Together, they drew up a list of attributes which they felt would help select employees (managerial and non-managerial) who could function effectively and comfortably in a participative management (PM) atmosphere (see Appendix B). Selection of supervisors was also contingent on a requisite technical background. The pool of candidates who were technically prepared for the complex jobs being filled was limited, thus restricting selection options. Only one supervisor out of seven hired had had experience with the specific types of biological products to be produced at Centerton. Two new managers had had little or no managerial experience, but they did have some requisite technical experience. When completed, the selection process for managers and supervisors seemed to have favored people who were attracted to the concepts of QWL, who were intelligent, ambitious, idealistic, and who seemed to have good development potential, over those chosen primarily because of extensive managerial or supervisory experience.

Three workshops for managers and supervisors were presented jointly by the HIRI consultants and the personnel manager during the pre-start-up training period. Their dates and relevant topics are outlines below:

October 1-3, 1973	Participative Management-Principles and Techniques for Motivation Principles and Techniques of Communication Leadership Styles Interpersonal Feedback
October 24-26, 1973	The Quality of Worklife and Productivity Job Enrichment Principles, Job Design, and Case Problems Team Approach to QWL Improvement
December 18-21, 1973	Individual Interviewing in Employee Selection Techniques, and Skill Practice.

The training workshops provided practice in the concepts of QWL, job enrichment and exposure to an open, informal style of leadership. Workshop members became accustomed to hold critiques after a task, share perceptions of the outcomes, and plan for improvement "next time" based upon learning from the critiques. The workshops focused on the aspects of QWL improvement that were different from the more authoritarian, less participative management style that the managers and supervisors previously had been accustomed to, whether at Crown or in other companies for which they had worked. The HIRI consultation did not attempt, however, to provide "standard" management or supervisory skills, which it was assumed (incorrectly in some cases, as later events proved) that managers and supervisors already had. And certainly HIRI presumed no competence or responsibility for technical training, which was supplied by corporate headquarters, equipment manufacturers, and university courses.

HIRI concentrated in the workshops on concepts and techniques of nondefensive communication and problem-solving. The process of the workshops and concurrent experiences in technical training offered some tangible discussion and practice opportunities. However, the trainees (managers and supervisors) were not yet engaged in the bread-and-butter process of production and quality control, and hence there was a degree of unreality to the problems faced.

Job design. Job enrichment ideas stimulated by the consultants were further developed by a visit to another company successfully using advanced QWL principles (which was suggested by the HIRI PD), and by a symposium on worklife improvement held on the West Coast. These ideas were considered by CMS engineers in the design, layout, and staffing planning for the Centerton operation. For example, one production team was responsible for the process from receipt of raw material through roughly half of the production procedure, involving a substantial variety of tasks, high responsibility for product quality, and probably an even balance of individual and group efforts. A sense of closure was felt at the end of this team's work with one batch of the material, since the product could be followed as a discrete lot through further stages and final sale. As well, some of the material was sold as final product from this intermediate point.

The job design components of providing meaningful work were implemented during the plant start-up (after March 1974). Job boundaries were large, with much task variety in them. Most people had the opportunity for some autonomy in their tasks. The major factor working against sustained good morale at this time was a lack of sufficient work for production operators (about 30 people) as a consequence of the start-up problems experienced in getting equipment delivered and put into operating order. Sustained difficulties in overcoming process problems also were a source of frustration.

Job design was learned in the workshops, but there was less opportunity during the training for each member to practice leadership/managerial skills and truly to clarify and refine for himself a concept and style of PM; thus at the end of the training period a number of unanswered questions about PM remained. For example, supervisors wondered about how assertive to be and how much authority they had to make decisions, or whether their subordinates should participate in all decisions. Their uncertainty about exercising leadership, facilitating and making decisions, was exacerbated by their inexperience in leadership roles and their lack of technical expertise. Insufficient workshop time and not having ongoing team situations to which to relate anticipated problems tended to limit discussion and resolution of these concerns.

Selection and training of nonsupervisory personnel. During January 1974, the supervisors with HIRI assistance were engaged in the interviewing and selection of production operators. The employees selected in February and March 1974 tended to be young people with little production experience. Many had quite idealistic expectations for the Centerton plant and its implementation of the QWL program (expectations presumably generated by contact with the supervisors). Candidates with relevant technical experience were not readily available in the area. Consequently, managers and supervisors tried to select employees who would fit well in the new organization atmosphere. According to the ISR analysis of the selection procedure, a foremost factor for selection was a high rating on "ability to listen understandingly." In the training of interviewers, the PI tried to emphasize the complement of this--"ability to communicate clearly."

In May 1974, when repeated delays in the anticipated start-up date caused many difficulties, several managers questioned whether it was wise to have allowed the inexperienced supervisors to guide the selection process as much as they did. Some managers, in retrospect, felt that a better balance of age/maturity and production experience among the new employees might have helped avoid some of the problems and forestalled some of the frustration and disappointment encountered as start-up was postponed.

Quality Assurance (QA) employees were interviewed and hired by the QA manager and the lab supervisors; HIRI's influence here was only indirect (through training and communications about the QWL program). Maintenance technicians were hired by the plant engineer. Prior technical training (a minimum two years of college for the QA department) or experience was required for these positions. The selection process here seemed to have more easily assessed variables (such as relevant college coursework) than that for production employees (who were assessed by subjective judgments about personal attributes).

In March 1974, a three-day Orientation and Training for New Employees program was presented, coordinated by the personnel manager. The training group consisted primarily of the new production operators, clerical personnel, and supervisors. Four new supervisors from the QA department also attended these sessions, as they had not taken part in the initial supervisory training. This orientation was their primary introduction to the QWL program and management style. (The QA lab assistants whom they would supervise had not yet reported to work.) Although maintenance technicians had been hired, few attemded because of the heavy workload and their manager's priorities.

The participants responded very enthusiastically to the Orientation Program overall, and to the Team Training Workshops. Much interaction was generated in the group tasks. Later, in their task teams, employees continued to contribute ideas and suggestions about the work. The HIRI P-O learned from some individuals that there were occasional misunderstandings and fears about giving feedback--fears that in trying to tell superiors what appeared wrong or in need of review, there sometimes might be defensiveness leading to retribution. Reactions such as these are normal within the context of QWL efforts. All in all, however, there was a significant degree of openness and trust in the early stages, with the result that many people experienced C/C as a superior and unique place to work.

Managers' and supervisors' group development. The production supervisors and the two production department managers formed a highly cohesive, enthusiastic group during the early training period. In the development and training of the entire group there had been much emphasis on an openness to change, on flexibility, and on challenge of ideas, decisions, and standard operating procedures. The openness and initial trust fostered by consultant modeling were supported by the willingness of the top managers (the plant manager, the production manager, and the personnel manager) to accept and take part in this style. It is important to note, though, that this behavior and the cohesive group developed during training had not yet been exposed to the stresses of the real work situation.

As time went on, small misunderstandings combined to weaken the group's cohesion, openness and enthusiasm. When possible, the consultant tried to create a learning experience out of the misunderstandings, particularly by demonstrating the serious interference with effective work that can be caused by unspoken angry or hurt feelings and by pointing out the role that innocent misperceptions frequently played in communication difficulties. The stress caused by these misunderstandings between supervisors and a few managers seemed to test each person's faith in the participative method; their idealism received its first tarnish. They had to be helped to recognize that such problems probably would be more likely to occur under a traditional style of management, wherein there would be less opportunity for constructive resolution.

In the first eight months, frequent 12 to 16-hour workdays drained people's energy. Production and maintenance managers and supervisors tended to become absorbed in technical and mechanical problems and to defer anything that was perceived as unrelated or nonessential. "Sharing the problem with the people who are involved in it" was viewed as a time-consuming burden by some, and because "the people" were new, it was felt that few of them would have appropriate contributions to make to many of the problems. Nonetheless, in a number of cases the relationships between supervisors and teams were sufficiently good and close that people felt involved and "participant" without any extra or formal efforts.

One or two key managers seemed unable to meet commitments they had made to other departments, and this exacerbated the tension already generated by many production delays. Discouragements and resentments were expressed by the workforce to their supervisors and by the supervisors to their managers. Although openness of constructively intended complaints had been encouraged and was now practiced, actual support of that practice was not adequately forthcoming. Self-confidence and the enthusiastic aspect of morale were thus partially eroded. In exercising their somewhat unusual freedom to identify problems, people sometimes forgot to take stock of and to mention the positive accomplishments.

Despite this voicing of complaints, which may have served as a helpful safety valve, the experience of most employees during this time was reported on the ISR surveys and to the P-O as quite good. Employees expressed surprise and pleasure at their relationships with supervisors and the friendliness of managers, and attributed much of this to the QWL project. Objections were made about the delays and the amount of housekeeping the job required, but there was a surprising tolerance for the problems. It is possible, of course, that the unemployment rate at the time may have tended to make job holders more willing to endure the unpleasant aspects of their work situation.

Decision making without participation. On occasion a manager may need to make a decision without others' involvement (particularly in connection with technical problems), or contrary to what his subordinates would advise. (This point should have been emphasized more by HIRI in the training.) The first time one of these instances arose at Centerton, when the plant manager made a certain policy decision without inviting consultation, voices were raised against the method and the decision. (The decision had to do with requiring overtime work for all plant personnel on a weekend, and on very short notice.) This experience caught the plant manager a bit off-guard, and tended to make him suspect the loyalty or managerial maturity of his people. He did not recognize that he had failed to communicate his need to make the decision alone this time. On the other hand, he clearly needed the flexibility to make such a decision, and could legitimately expect support for it, though it would be more consistent with QWL principles if he had previously informed key people of his reasons for making the decision. The outcome of this experience was wariness on both sides: The plant manager became wary that the participative style might not give him the flexibility in decision making that he needed, and the managers and supervisors became wary of both the plant manager's commitment to PM and his sincerity about their freedom to challenge. The P-O and consultants made observations along these lines to the plant manager and his key staff.

Observations on effects of delay in getting into production. By May 1974, the Centerton plant had not yet begun production for a number of reasons. Some of the problems were within the Centerton management's control, while others required engineers from headquarters or equipment manufacturers' representatives to help solve. The production delays meant that the production employees who were hired in February-March 1974 often were idle. Without real work for them there was little incentive and, it seemed, few opportunities to solve work-related problems or participate in decisions about work arrangements. Supervisors preferred not to hold regular team meetings for lack of an agenda, and the habit of periodic communication about unresolved problems did not become established. Because the production teams were small, informality was usually an adequate style, and systematic review of progress on problem-solving efforts was not institutionalized. As a consequence, the groundwork for future adherence to that kind of method of operating was not laid.

Characteristic personnel problems. In each of their visits during this period the HIRI consultant and the P-O were asked for assistance in dealing with personnel problems. Two particularly sensitive problems were addressed. One concerned a young extraction supervisor who was having difficulty mastering the technical material required for the job and in providing leadership to a team. In spite of much concentrated help from colleagues and consultants, the outcome was his resignation.

Although their efforts failed, the process of group members all cooperating to try to help their teammate "make it" probably served to strengthen group morale.

This was the first loss to the original team of managers and supervisors, and it was disappointing. The supervisor hired to replace this man would not have the same training and team development experience.

The procedure used to orient and train the replacement supervisor reflected the increasing pressure of little time and great need to produce quickly. Under these circumstances the personnel manager held an orientation discussion with the supervisor on the first day of employment. Technical and supervisory training was left up to the department manager until enough new supervisors were on board to justify holding a formal supervisory training program (several months after the supervisor joined). At this later time it often was difficult for production supervisors to attend.

A second sensitive problem receiving much consulting input was the need to develop better working relationships among the production manager and his two department managers. Tension among the three men became apparent during the Spring of 1974 as major and minor problems remained unresolved. The consultant tried to improve their ability to work together by helping them to communicate and to confront differences in perception, values and style.

The consultation seemed to increase communication and understanding among them during, and for a short while after, the consulting visits. Many of the differences between the three managers concerned issues on which none was inclined to compromise. For instance, one department manager insisted that all production equipment and set-up be nearly perfect before any actual production began, whereas the production manager felt that with some less-than-perfect equipment, operating problems could be worked out better in the process of carrying out the first trials. The consultants felt it might be possible for the men to work effectively in spite of their differences. Little gain in working relationships was seen, however, during the early Spring of 1974. Eventually, one department manager was terminated and was not replaced. The role of the consultant during subsequent meetings with the plant manager about this problem was to help clarify his own appraisal and feelings about the persons involved, the situational requirements as he saw them, his alternatives for dealing with the matter, and the probable short- and long-range consequences or outcomes of the several alternatives.

There were some other personnel problems involving performance deficits on the part of certain individuals where the consultants were able to help the concerned superior identify and better utilize the individual's strengths rather than harp on limitations which were not importantly relevant to job performance.

Discussion

Leadership and autonomy. The appropriate role and style of leadership, particularly in connection with implementation of the participative method, had been an early concern. Supervisors had been given much freedom and responsibility to manage their teams and had been promised the opportunity to participate in management decisions and problem solving to the extent that this would be pertinent and appropriate. In attempting to carry out this philosophy, some supervisors were worried about stifling participation if they were to give orders or firm directions to their teams. Supervisors also were concerned with receiving too much direction from their superiors. Autonomy within their team and with their production responsibilities became a well-defended goal --to the point that supervisors and department managers seemed respectively possessive or "territorial."* Part of this behavior probably can be explained by the background of these supervisors as high individual achievers (i.e., their previous progress and promotions had been primarily dependent on individual efforts, rather than team efforts). In the C/C environment, which tended to encourage group achievement, individual achievement did not seem to be rewarded as it had been in the past, yet this behavior was natural and had been successful for them. To some extent, C/C sent paradoxical messages about its team structure: People were expected to perform as a team but their performance was evaluated on an individual basis. Perhaps not enough was taught in training about cooperative behavior and individual/team issues; and managers had perhaps not given enough thought to the motivating factors for the supervisors. In any case, territoriality or resentment by subordinates of involvement by superiors often was dysfunctional to the solution of difficult and persistent problems. The consulting strategy was to try to mitigate these feelings by offering possibilities for solving problems as they arose, rather than to try to eliminate the struggles for autonomy. As the supervisors gained experience in their new roles, their concerns about autonomy seemed to subside.

Leadership and participative management related to the conduct of meetings. It became apparent during this period that there was insufficient skill among managers and supervisors with regard to (a) the kinds of subjects which warranted meetings, and (b) ways to conduct meetings effectively and efficiently. Many meetings were held, a number of them concerned with very basic or routine problems--problems which the plant manager felt should have been dealt with immediately by a supervisor without need for a meeting. The plant manager further felt that these meetings for solving such basic, routine problems during a start-up phase were impractical and too cumbersome to be effective and successful. Viewing this as a major factor inhibiting expeditious start-up of the plant, he chose to put his faith in one-to-one relationships, working directly with individual department heads to solve specific problems that had to be overcome before the plant could get into production. Some meetings thus suffered from different individuals' perceptions about the need for them and some poor quality of certain meetings was attributed to the (probably) excessive number of them.

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*Editorial input from CMS suggests inserting the following two sentences at this point: "Behavior might also have been influenced by their training which gave the impression that under PM, each manager and supervisor would have absolute responsibility and jurisdiction in his area. Little consideration was given to the fact that the production manager and plant manager also had stakes involved and were ultimately responsible to get the plant into production."

Informality and abstractness of leadership in conducting meetings often meant that some of them did not end in closure or agreement. Thus, tasks were not accomplished. Frustrations arose when decisions were not reached, and managers, in particular the plant manager, began to prefer individual to team efforts. Meetings were not given up but, as stated above, the plant manager began to put his faith in one-to-one relationships. These difficulties caused frustrations with the QWL method (which was perceived incorrectly by some as emphasizing that meetings be held on all sorts of problems, whereas the intent was to hold them only when valuable and appropriate for optimally effective operation). Managers and supervisors began to question whether a QWL program could constitute an effective and efficient managerial method. From the consultants' point of view, difficulties in the management of meetings resulted from deficits in the leaders' organizational skills, rather than problems inherent in the QWL method.

Testing the QWL Concepts under Stressful Start-up Conditions: Mid-May 1974 through Mid-February 1975

Major production and intervention events of this period and the next are summarized in a timeline in Figure 3.

Plant Goals

The goal for the plant during this period was to achieve qualification--that is, licensing for the production and sale of certain pharmaceutical products. Financial pressure on the corporation required that this be done as quickly and as inexpensively as possible. Although production employees were hired in February 1974, it was not until June 1974 that the first batch of raw materials was committed to the production system. The initial biological extraction product was first filled into final containers in September 1974, with a first shipment released for sale in December 1974. Licensing procedures for the second product were completed in February 1975.

Intervention Focal Points

The HIRI project team became more informed about and available to the C/C organization in mid-May 1974, when the P-O began working at the plant on a full-time basis. (See Appendix C for the Memo of Introduction of P-O to the Plant and List of P-O Activities.)

Figure 3.

Timeline of Major Production and Intervention Events, June 1974 through December 1975

	1974							1975											
	J	Ju	A	S	O	N	D	J	F	M	A	M	J	Ju	A	S	O	N	D
First pool—production begins	x																		
Consultant visit by HIRI PD		x																	
Teams interview for new members		x																	
First product fill				x															
Site visit by DOL and HIRI PD				x															
ISR feedback poster displays in each department					x														
Supervisory training program sessions					x														
"Kiem tau" or management critique						x													
First product licensed						x													
P-O, Ss work on advancement system design in production departments						x													
First sale of product							x												
Organization structure changes							x												
June '74 through Dec. '74 Progress Report for QWL prepared							x												
ISR long form questionnaire feedback explained by P-O								x											
Qualification—product licensing—achieved fully									x										
QWL goals restated by P-O									x										
Dec. '74 through Feb. '75 QWL Progress Report prepared									x										
Consultants visit by HIRI PD-communications meetings										x									
QWL Report to Ms, Ss from P-O											x								
Feb. '75 to April '75 Progress Report on QWL prepared											x								

Figure 3. (cont.)

	1974							1975											
	J	Ju	A	S	O	N	D	J	F	M	A	M	J	Ju	A	S	O	N	D
Good progress made in production—favorable yields												x							
Consultants visit (PD and re-entry of PI)--meetings held for project evaluation													x						
P-O leaves plant site full-time													x						
April '75 to June '75 QWL Progress Report prepared													x						
Company-wide layoff, two weeks														x					
C/C management terminations after layoff														x					
Consultant (PD and PI) meeting with top corporate Ms														x					
June '75 to August '75 QWL Progress Report prepared															x				
Plant M statement of QWL expectations during supervisory training															x				
Consultants, P-O meet with C/C Ms, Ss to review project report draft																x			

HIRI's goals for this period were to help where help seemed most needed--in trying to facilitate effective management through improved communication, listening, responsive feedback and problem-solving skills of managers and supervisors. The particular focal points during this time centered on efforts to help C/C managers and supervisors progress toward the following objectives:

(1) provision of increased communication and feedback about events and problems, particularly more specific feedback about performance, formulated in statements about behavior so that a person would know specifically what to change;

(2) direct and more immediate confrontation of problems that needed resolution;

(3) explicit statement and communication of goals, especially about the QWL program, and also about production;

(4) increased participation with managers by supervisors and employees in matters concerning their work;

(5) sensitivity to the personal development and progress of individuals; and

(6) development of better defined structures, arrangements or systems (such as career advancement systems) to support QWL and production goals.

The Participant-Observer's Method

The P-O used a HIRI format to record interventions, outcomes, and assessments of the transactions. An excerpt from the intervention about periodic reviews of the organization is presented as Figure 4. More detailed daily activity records were kept.

The P-O's style of intervention was to work with individual managers and supervisors, and occasionally with a departmental supervisory group, making observations, giving feedback to them, suggesting alternative ways of doing things, and offering resource help for system development. The choice of a less outspoken, individual-centered style resulted from personal preference, an awareness of her "guest" status in the organization, and a sensitivity to the substantial pressure managers and supervisors were experiencing from the time delays in getting into production, with resulting exacerbation of corporate financial dilemmas.

This one-to-one intervention style is illustrated in the following exchange (quoted from an activity record): "Observations of a QA meeting on seniority policy. Supervisor commented once, 'Let's take a vote.' Intervention: as an aside to him, P-O said that voting sometimes results in an unhappy minority. Outcome: he later commented that that was a good observation. Since then, he has facilitated decision by consensus."

Figure 4

INTERVENTION FOCAL POINT	INTERVENTION	ACTUAL OUTCOME
Periodic Review of the Organization 10-20-74	10-7-74 Suggested to plant manager to have kiem tau: "step back and look"	10-7-74 Reply: plant manager, "we need to step in & look." 10-18-74 Plant manager mentioned to me that he wants to get together to talk about a number of items, including kiem tau.
DESIRED OUTCOME On a regularly scheduled basis management will plan and hold a review of the whole organization. Its social and technical systems. The critique will be positive, not blaming; with the intention of learning from past experience and changing where needed to better deal with the future. The review will involve all personnel, though not necessarily at one time.	10-22-74 Suggested to production manager a need for kiem tau	10-22-74 An angry response from prod. mgr." wants no kiem tau with rest of plant managers and supervisors until his own house (production) is in order. "What good does it do to share our specific problems with other depts?" "Some people think they can solve any problem with a meeting."
	11-4-74 In discussion with plant manager I included "have a review" as one of several things I would do differently here.	11-4-74 Reply: "I can't get excited about it now" until licensing is done.
VALUE OF OUTCOME Ref: Theoretical Framework To enhance growth & development and to be responsive to changing situations, it is important to monitor the organization's status. The review provides an opportunity for management to plan change* and for all members to offer suggestions in a non-threatening environment.	11-18-74 Asked for suggestions for structure of the meeting from several managers. 11-19-74 Asked production dept. manager for input to review. 11-19-74 Prepared notes for a review giving suggested outline and comments for review structure, gave to plant manager. 11-20-74 Prepared Statement of Objectives, Oct. 73 & Feb. 74 for handout and on flipchart.	11-14-74 In meeting with plant manager, personnel manager, and his assistant, time for review with managers and supervisors set for Thurs. a.m. 11-21-74. 11-18-74 Plant manager sent memo out to all managers and supervisors announcing kiem tau or review. 11-20-74 Planning meeting-personnel and plant managers and P-O-using notes as basis. Plant manager rehearsed some of his ideas for presentation to the group.

*To proact

A weekly overview of problems or areas of concern and planned follow-up by the P-O was provided to the consultants and given verbally to the plant manager (with some amendment for confidentiality). An example of this report, from two dates, follows as figure 5.

To some extent the P-O's effectiveness was limited by her having to "replace" the PI--a friend and valued expert viewed by C/C as irreplaceable--as the HIRI representative.*

Consulting Interventions, Outcomes, and the Organization's Development

Most of the P-O's interventions consisted of day-to-day reinforcement of certain principles. For example, as problems or events were discussed she would ask whether those problems or events had been shared or discussed with the people concerned. Or, when anticipated job changes were described, she inquired whether those who would be affected had been consulted.

Most of these discussions occurred with managers, some with supervisors, and some with non-supervisory employees. Work with employees usually consisted of encouraging them to inquire of their supervisor about things that bothered them, to offer suggestions, and to voice concerns.

The P-O's style of informal one-to-one interventions makes assessment of outcomes difficult. Specific results may have occurred, but it is unclear in most cases that an outcome was causally related to the intervention. In addition, the P-O often was limited in her ability to follow up the development of a problem solution, since much of what was told her was communicated on a confidential basis. Therefore, most of the outcomes and events of this and later periods will be presented as occurrences in the organization's development, not necessarily tied to a specific intervention but relevant to the course of the QWL program.

One very valuable organizational development initiated by the plant manager was formation of a Plant Manager's Communication Group, consisting of one representative from each of seven teams in production; from two QA teams (bio control and chem control); from administrative employees (personnel, accounting, QA secretaries); and from Engineering/Maintenance. All of these persons were from the non-exempt or hourly workforce; none were supervisors

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*The Centerton personnel manager, in his editing, remarked: "This is a critical point--the P-O was very willing and tried hard, but lacked the experience. Thus, sufficient consultant help was not available just when production started and the 'classroom training' was being put to the test."

Figure 5

OVERVIEW AS OF 5-23-74

Problems/Areas of Concern	Planned Followup
1. Stress caused by start-up delay (a) Complicates people's jobs with boredom, makework, discouragement, long hours.	1. Get more information directly from supervisory and non-supervisory personnel.
2. Need to assess extent of morale problems which may be emerging or present.	2. Get more information directly from supervisory and non-supervisory personnel.
3. Feedback and communication (a) Need to encourage the frequent giving of feedback about process and events to people directly involved in a situation.	3. P-O modeling and direct suggestion to individuals to give feedback.
4. Problems procedure (a) Need to develop a procedure to provide an outlet for employees' concerns, i.e., a problems procedure.	4. Collect ideas from supervisors--consider whether this should be an employee-developed procedure.

OVERVIEW AS OF 7-5-74

1. Managers/supervisors autonomy--major question among managers and supervisors now is autonomy. (a) This desire for autonomy is perceived by superiors as possessiveness or territoriality on the part of their subordinates. (b) Involvement of superiors is perceived by subordinates as lack of trust in subordinates.	1. Feedback observations to those involved. Encourage direct and frequent communication, if necessary by recommending regularly scheduled meetings until it (the communication) occurs naturally as needed.

or managers. They met at monthly intervals to discuss anything of concern to them, and to provide a face-to-face opportunity for the plant manager to communicate any information he might have to offer.

Consulting visits. A difficulty similar to that found in P-O intervention exists when trying to assign outcomes to interventions that occurred during consultant visits. An outline of visits and their major concerns will be presented, with outcomes interwoven in the material following this section.

In July 1974, the HIRI PD came to Centerton for a consulting visit. His time was divided equally between (1) individual developmental counseling interviews with certain managers and supervisors where request had been made for counseling, and (2) work with the plant manager, production manager, plant engineer, and the extraction department manager. The consultant tried to stimulate this "cast of characters" to diagnose some of the road blocks to more effective project implementation, adding his own observations. In the ensuing discussions, efforts were made to develop change plans with each person.

Two additional consulting visits were made to Centerton by the HIRI PD during this period. In September 1974, the consultant joined Drs. Howard Rosen and Robert Foster of DOL for a site visit review of the project. During that visit the DOL representatives toured the plant, talked with some persons at all levels, and attended a regular meeting between the plant manager and his staff. During the meeting, Dr. Rosen asked the plant manager whether he would still choose this participative style of management as worthwhile in relation to achieving organizational effectiveness. The plant manager replied that he would--despite some frustrating aspects such as a tendency toward slowdown of decision making and extra time spent in team meetings. The beneficial results, he indicated, seemed to be more open communication, more comprehensive input to the decision-making process, and greater ego-involvement in the job and in trying to overcome the plant's problems.

The HIRI PD presented a December 1974 training session (on improving organization effectiveness) to new supervisors. The visit also involved the consultant in discussions with the plant manager and personnel manager regarding a management critique held in November 1974 and some organization staffing changes made in early December 1974. Both of these latter two events are discussed on pp. 51-54. As opportunities arose, the consultant discussed with various groups clarification of the concept of PM.

Project documentation and feedback. In order to communicate about the project and to disseminate available feedback to the plant, the P-O wrote and distributed several documents: (1)August 1974--factsheet about the QWL project, intended for inclusion in new employees' information packages (Appendix D); (2) October 1974--poster displays of the ISR feedback for each department; (3) January 1975--written explanation and interpretation of the ISR long-form questionnaire feedback; and (4) February 1975--restatement of the QWL goals with more specific definitions and indications of means to achieve the goals (Appendix E).

The ISR long-form feedback was used for discussion in each department. However, little activity was generated from this or other documents probably because the organization was not ready to initiate any activity around the QWL program until the production process was under control. Too, once production had begun, time away from production work for review and discussion with the teams seemed difficult to set aside.

Training. Training interventions included P-O help to the personnel manager in arranging and implementing a supervisory training program for newly-hired managers. Orientation to the C/C QWL program and to QWL theory and background was handled by providing them with reports, with Glaser's manuscript on QWL and productivity, and by having discussions of the material with them.*

In October 1974 a training program was offered for new supervisors. Attendees were primarily QA department supervisors. They seemed to accept and use the QWL concepts in the management of their teams. The transition to practice may have been made easier for these supervisors since they had the training at a time when they also had an ongoing team setting in which they could apply and test what they were learning.

Attention to growing concerns about advancement opportunities. In November 1974 the extraction supervisors and the P-O developed a proposal for an advancement system for the extraction teams. Initial discussions were held with filtration supervisors for a similar purpose, and the plant manager was kept informed of these efforts. The plan was to have the proposal submitted to the relevant employees for their suggestions and critique as soon as it had general feasibility approval from management, but consideration and implementation of these proposals were delayed because of production priorities. That is, while attention to job satisfaction goals of this kind was indeed intrinsic to the QWL objectives, the survival objective of getting the time/energy-absorbing plant operational problems straightened out preempted almost everything else during that period. The climate was something like "When you find yourself up to your armpits in alligators, you tend to forget that your mission includes finding a way to drain the swamp."

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* The P-O (with consultant editing) wrote Progress Reports every six months through December 1974, then every two months through the project's end. While the reports were a grant requirement for DOL, they were also provided to the plant manager for his concurrence about problem analyses cited therein. He was free to distribute the report to managers and supervisors, but usually limited his distribution of it to the personnel manager.

Employee team experiences. In many teams, especially small ones, close cohesive relationships prevailed. The operators, probably because of their closeness and because they were kept informed of circumstances and reasons for events, continued to show much tolerance for frequent delays and changes. Supervisors had been given only minimal guidelines about team management in training sessions, and each developed his own style of operation with the group. The basic idea conveyed by the consultants was that where possible people should be given a choice or at least a voice in the various daily work decisions, and where that was not feasible (because of time, for example, or because of FDA-BoB regulations), people should be well-informed about the decisions and their rationales.

In some production teams and in some QA teams, group members volunteered for work assignments rather than having them assigned by the supervisor. Group problem solving was used in some teams to resolve matters such as responsibility for housekeeping. Which teams chose to assume responsibility for a particular function seemed to depend on a combination of supervisors' and employees' preference. In one QA team the supervisor felt it was the team's responsibility to assign their own work. He conveyed this to them positively and the group took on the task quite willingly. A production team asked the supervisor to assume the task of work assignment after a period of trial of team members choosing their day's work in the order that each member arrived. It happened that one member would come quite early and "cream off" the good tasks. The team felt a fairer distribution of the work would be given by the supervisor. (Of course, other alternative solutions were possible, but the supervisor accepted the job.) That production team reacted favorably to the supervisor's making the decisions about work distribution.

In July 1974 several production groups became involved in interviewing candidates for new team members. This participation in hiring developed from the discussion in the March 1974 team training workshops about pros and cons of such involvement. Supervisors still made the decision to hire, but weighted heavily the team members' recommendations. While team members in general responded favorably to this participation, employee participation in hiring did not continue after a trial of several months for three reasons: (a) as production increased, time for such activity became scarce; (b) team members found that their choice and the supervisor's choice of employees were often quite similar, so that even without interviewing they could count on a satisfactory outcome; (c) some candidates were inconvenienced and disturbed by the multiple interviews (an interview with the supervisor and a second interview with the team).

Job design. Training in job enrichment had been a significant part of the QWL intervention. During this period a job design change with problematic consequences occurred in the extraction department. A new team was created by the department manager to handle the receipt and storage of the raw material and its pooling. Although the change was initiated through involvement of the deaprtment supervisors and with some consultation of team members, some observers in the plant felt that this change was a step backward for the QWL concept of job enrichment--the job is less varied and is only a small part of the extraction process. Too, that team was staffed by the most junior members of the other teams, and received only indirect or rotating supervision from the day shift supervisors and the department manager. At issue here was the question of whether a department manager should consult with the managerial staff before making a change that negatively affected job design and the QWL improvement concept. Consultation with other department managers was not held prior to implementation, and a precedent for independent departmental decisions in relation to use of QWL principles was set.*

Shift in QWL Presentation

Based on his own observations, plus inputs from others that QWL concepts might be responsible for some of the organization's confusion and ineffectiveness, the plant manager publicly announced that the QWL concepts were recommended and encouraged, but if not found effective for the individual they were optional. For some people toward the end of this period, the QWL method was "on trial." Some held the view that the method should be resisted until proven effective. The HIRI team felt that judgment should be deferred until the method had been thoroughly implemented. But at times C/C's urgency to produce and the handicaps they had to overcome to achieve production interfered with their commitment to give QWL efforts a thorough trial.

The plant manager believes this confusion and ineffectiveness was due in part to the initial training which gave the impression that within the family circle there would be no conflict. Openly dealing with such issues could be seen as an admission of problems within the family. This resulted in a situation where some individuals tended to wait for the organization to remove that which caused a conflict as opposed to approaching it one-on-one in frank and open discussion.

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*Editorial comment from C/C is as follows: "This seems to us to be a significant overstating of the effect of this event. First, there was in fact consultation and involvement with supervisors and team members, the question being how much further consultation must be secured for establishment of a new team within a single department. Granted that there can always be a divergence of opinion as to whether or not action involving a single department should or should not necessarily involve plant-wide consultation, it is difficult to conclude that this was the precedent-setting factor claimed. This is especially true considering the fact that 'some observers' really consisted of the QA manager, whereas others felt it was rightfully the department manager's decision, recognizing the reality that each department has different functions, problems and expertise that will permit a certain amount of decision making without plant-wide consultation. In sum, the matter did not have the overall impact that is implied."

As pressures of production increased and differences of opinion became more evident, the openness and trust that had existed between managers, supervisors, and non-supervisory personnel began to diminish. The P-O and consultants spent much time modeling and encouraging the giving of feedback and pointing out in staff meetings the dysfunctional nature of withholding information or strong feelings. They also tried to get the C/C managers and supervisors to think about what needed to be done in order to increase safety and trust, and under what conditions one can responsibly choose not to communicate at times. Nevertheless, it appeared that the group was stubbornly resistant to change--or that when people did give feedback after such intervention, the consultants and P-O were often unaware of the outcome. (In most interpersonal relationships, the tendency to withhold frank expression of what bothers an individual constitutes rather customary practice, except when there is an angry confrontation or blowup. Yet this behavior was particularly maladaptive in the C/C situation because it exacerbated certain relationships already burdened with tension and conflict. Openness of expression would at least have brought out serious irritations and might have led to constructive change in a number of cases.)

Key managers' relationships and some important personnel changes. Antagonistic interaction between the production manager and his two department managers continued. The major differences were between just two of the three, but the third member suffered because his manager had limited time to help him. The P-O encouraged the plant manager to help resolve the problems, particularly by providing specific feedback about performance deficits to the managers, reaching agreement with them on a plan for change, and by following up progress on a periodic basis. In the Fall of 1974 this process was begun with one department manager, and some improvement in performance was noted. The plan was discontinued when the plant manager fired one of the managers. He felt that there was little hope of the major behavior changes that would have been necessary to improve this manager's performance within a short time.

During the last months of 1974, plant managers were required by corporate headquarters to review and justify every salaried and hourly position in the plant, and many positions were eliminated. In the process of this review, the extraction manager (as noted above) was terminated, and the former production manager filled that job. The position of production manager was at least temporarily eliminated so that the plant manager could be closer to the production operation and thereby achieve better control. The Filtration/Filling/Finishing department manager, an engineer by profession, chose at this time to move to the position of process engineer, and a new manager was brought in to direct the department. The position of assistant personnel manager was eliminated and the individual who had held the job became the finishing supervisor in production. One consequence of this particular cutback was to curtail the available support for the QWL project by personnel staff. (The position of assistant personnel manager was eliminated for reasons of cost savings. The others were for reasons of organization strengthening.) The new structure is given in Figure 6.

After the personnel changes were made, some divisiveness among managers and supervisors (who had differing opinions of the responsibilities for the plant's performance problems) was apparent. This caused a further decline in the openness of communications and the willingness of people to speak out, to question, or to challenge the top managers on matters they disagreed with or felt concerned about.

November 1974 "kiem tau" or management critique. For several months prior to November 1974, the P-O and PD had suggested that the plant manager hold a "kiem tau" or managerial critique to review plant management and QWL goals, and the progress being made toward them. It was expected that problems could be discussed in the spirit of constructive inquiry, and action plans developed (or reaffirmed) for dealing with them.

Instead of this suggested critique, the plant manager decided in November 1974 to hold a meeting with a very specific and limited purpose as his agenda: to determine why so many intelligent people spending so much time in the plant could get so little done toward successful start-up. Small group discussions were scheduled, to be followed by a report back to the entire group of managers and supervisors.

The P-O felt that little systematic planning had taken place for the meeting. The precise nature of the small-group tasks had not been adequately defined, and the necessary leadership for the sessions was not provided. No sense of unified purpose emerged. Indeed, there was a disorganized feeling to the initial meetings, with the P-O pulling one way, the plant manager another, and the small groups attacking a random assortment of subjects. Despite this confusion, however, several factors were identified as possible reasons for ineffectiveness, frustrations, and disappointment within the organization:

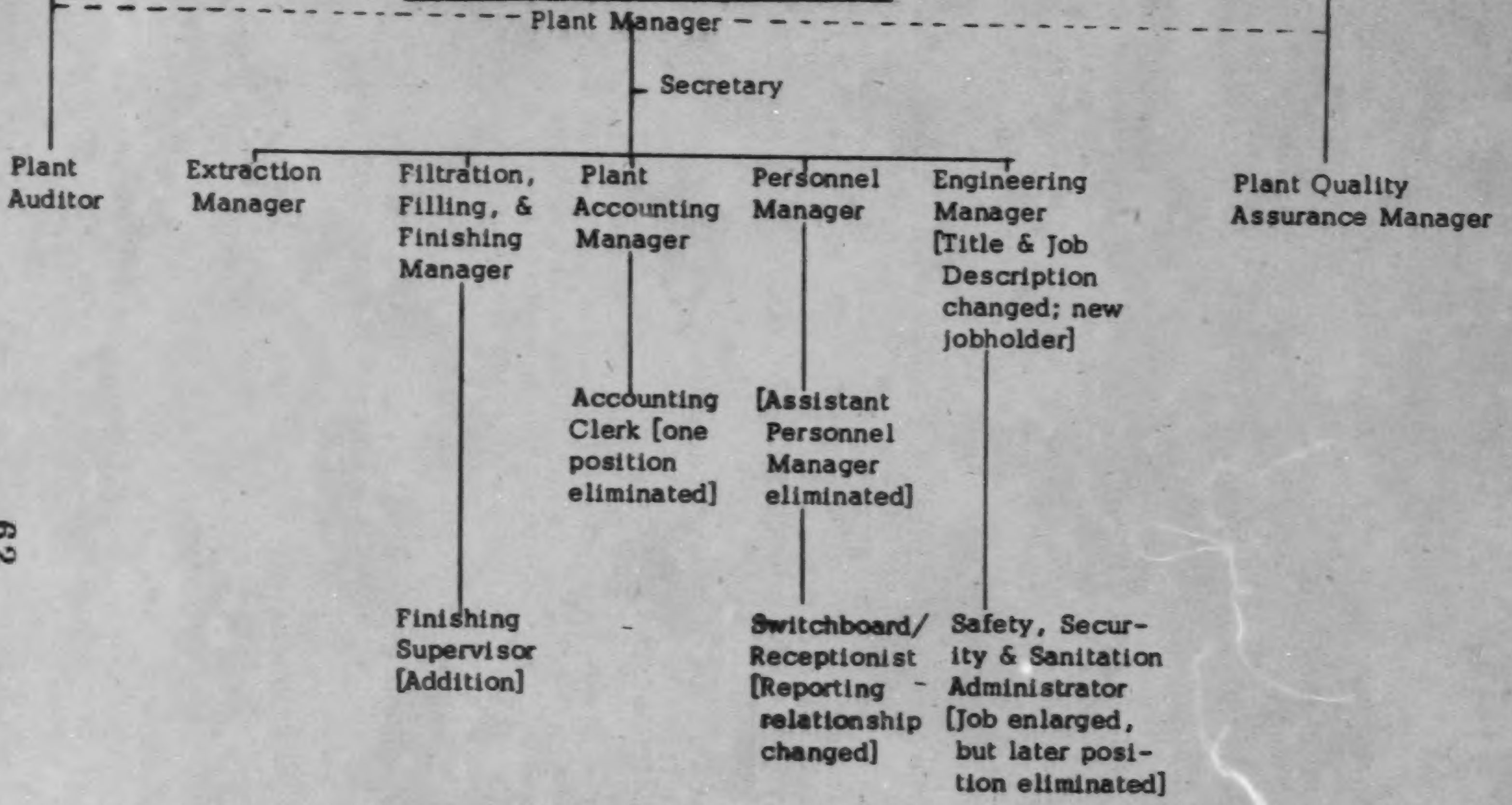
(1) There was widespread confusion about authority of supervisors and when/how the leadership role should be asserted.

(2) The plant needed greater authority or influence to insure that corporate engineering consultants and other experts from headquarters stayed at C/C long enough--until key problems were solved.

(3) Many employees had unrealistic expectations for a start-up situation and, for the most part, managers and supervisors were too idealistic about what might be expected and needed for start-up purposes.

Following the first day's activities the P-O, along with at least one manager, offered feedback to the plant manager about the confusion being felt throughout the meeting. In response

FIGURE 6
Organization Structure as of December 1974
With Only Recent Changes Indicated


Plant Manager
Secretary
Plant Auditor
Extraction Manager
Filtration, Filling, & Finishing Manager
Plant Accounting Manager
Personnel Manager
Engineering Manager [Title & Job Description changed; new jobholder]
Plant Quality Assurance Manager
Finishing Supervisor [Addition]
Accounting Clerk [one position eliminated]
[Assistant Personnel Manager eliminated]
Switchboard/ Receptionist [Reporting relationship changed]
Safety, Security & Sanitation Administrator [Job enlarged, but later position eliminated]

Total Population, December 1974: 98

Managers and Supervisors: 24

to this feedback, he redefined the task the second day: to identify any blocks to progress toward production goals.

Many managers and supervisors felt that start-up problems were due primarily to technical difficulties, particularly in the Maintenance and Engineering departments. Much of the second day, therefore, was spent in detailed discussions of these difficulties. Many problems were identified and the plant manager committed himself to investigating some of them. However, he was disheartened because he felt that a number of the problems discussed could have been solved by managers and supervisors, whereas the managers and supervisors felt that major engineering and equipment changes must be made before production could begin. They implied that until these problems were solved, the plant manager had no right to expect the plant to be started. The plant manager, on the other hand, felt that many of the problems were attitudinal--a "can't do" spirit that resulted from a general feeling of discouragement over the heavy start-up difficulties.

The meeting was an unfortunate event in several ways. The plant manager had asked that a consultant not be present (although the P-O was) because he didn't want to convey the idea that "nothing happens unless someone from HIRI comes." The meeting was not well managed in terms of specific problem identification, clarity of tasks, or follow-up, and since critiques were originally associated with the QWL project, the connection was made in some minds that this conduct and outcomes (all general talk, no action) were necessarily typical of QWL programs.

Discussion

Results of confusion about the meaning of participative management. PM seemed to be used occasionally as a scapegoat when people were assessing blame for numerous problems in the plant. One manager called it "management by disorganization." Some efforts were frustrated for other reasons: critiques were not held, according to one manager, because there was no point in asking for ideas when you would not be able to implement them because of money and manpower shortages.

The QA department management group did not experience the same problems or confusion about the role of leadership as did other managers and supervisors. While they had some questions about team leadership and how to manage teams effectively, they thought that what was intended in training was that PM be adapted to one's own style. These supervisors benefited from a modification of the supervisory training program which portrayed management style as a continuum from McGregor's Theory X (an authoritarian style of management) to Theory Y (a participative style of management) and which suggested that supervisors find for themselves an appropriate and effective place along the continuum.

The consultants and P-O offered resources and opportunities for clarification regarding PM as a means of improving leadership, problem solving and general organizational effectiveness through training, discussion, goal setting, and critiques. However, the plant manager and others felt that psychologically, physically and emotionally, people were drained from dealing with start-up problems and that it would be unfair and unrealistic to demand their additional energies and capacity to have the meetings and discussions for the specific purpose of QWL. From the HIRI team's viewpoint, any discussion of QWL would not be an end in itself, but rather a means for improving decision making, morale, and thus organizational effectiveness in ways that would facilitate dealing with the start-up problems, thus probably reducing the drain to which the plant manager referred.

Continued difficulty with problem solving. As already indicated, in the start-up period there were serious and difficult technical problems, the solutions to which were not readily forthcoming. Some persons seemed uncaring or overwhelmed in the face of these difficulties. Frequently, a general impression of inaction prevailed, often resulting from a failure to communicate about actions which in fact had been taken. Some supervisors felt that they did not have sufficient authority to solve problems, while some managers did not structure the problem-solving process enough to insure that a solution resulted. Persistent follow-up often did not occur. Some managers seemed unable to meet commitments, and no personal consequences ensued for such failure. Thus, the behavior seemed to have no short-term costs and was not changed. That is, a person could continue to make commitments but not follow through on them for months at a time with no adverse reactions except loss of credibility and loss of some support. (However, the plant manager pointed out in response to this description of lack of consequences that in his judgment the organization would not have benefited from additional stress that might have been caused by a strong "consequences" penalty system.)

In a number of situations, the plant manager was led by his feeling of reality-based urgency to intervene directly to reach a solution. By his modeling of expeditious problem solving that gave recognition to the fact that within technical areas especially, decisions cannot always be participative, he hoped to teach more successful methods to the managers who reported to him and to the supervisors who reported to them. Many of the managers, however, resented his interventions, which were informal and relied upon personal relationships and influence to get action. It seemed to some that he was subverting the group process to which the plant was supposedly committed.* One or two observers felt that the plant manager was able to solve problems by the use of his personal power, but this was not tantamount to using leadership skills. From that viewpoint they felt they could not learn problem solving from him since they did not have such power to use. The plant manager probably did have a method (other than power) to his problem solving, but with a small group of managers, with so many vexing difficulties, and with rapidly shifting priorities, it seemed to him impossible to write down commitments, formalize, and tighten-up to attend in more detail to what seemed to him to be routine matters of people carrying through on their commitments and responsibilities with dispatch. The consultants suggested to the plant manager that he make his perceptions, values and reasoning explicitly clear to all concerned.

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*A very few people seemed to feel that the use of power or personal persuasion was not legitimate in a PM framework; most others felt that use of authority was justified, if deemed necessary, to carry out responsibilities.

Comment on problem solving. Because of the abstractness in the problem-solving method, the blocks to problem solution could not be accurately delineated until so much history had accumulated that they were obvious. For example, it was not uncommon during meetings for the discussion leader to invite questions, ask for agreement on a matter, and receive no response--just complete silence. In many cases the leader took silence to mean agreement, support, or commitment--when, in fact, not even a consensual understanding of the particular matter was reached. As the plan or proposed solution was never reduced to written form, the apparent consensus of silence could mask unrecognized disagreements.

Inaction on problems was attributed more often to "people failure" than to other more specific possibilities, such as differently perceived agreements, inadequate manpower or resources, changing priorities, or underestimated time requirements. In those cases where a person seemed incapable of dealing effectively with the kinds of problems encountered in a given job, it was rare that either his job was changed or his skills improved. The plant manager saw no way to upgrade skills in simple, basic problem solving in a situation where the plant population was approaching start-up. The need for such skill training was perceived and appreciated by the plant manager, but he felt it had to be deferred to a later time and under different circumstances. The absence of sufficient feedback to responsible individuals and task teams about the perceived performance problems may have contributed to many failures.

Progress toward QWL Goals

Some QWL gains were made during this period. Communication was improved throughout the plant, primarily through the establishment of regular staff meetings in the departments. Participation in decisions about hiring, and policy development about seniority and layoffs, increased the employees' voice in work-related matters. (Teams reviewed preliminary and final drafts of these policies, often requesting and obtaining substantial changes. Input from all teams was synthesized by the personnel manager.) Jobs for the most part remained varied and challenging. The new pooling team did have a less desirable job, but the job change was handled with consultation and consideration of employees.

Managers and supervisors became aware of some difficulties caused by the amount of variety or the breadth of the jobs in filtration teams. The original plan called for a filtration operator to be able to do all the jobs in filtration and filling; but a particular task might occur once a week, and if the teams rotated or were scheduled so that each team got to do that task, then one team did the task only once every three weeks. Such lack of opportunity to practice the task led to an inordinately long period before a group was thoroughly trained in any one task. The department dealt with this problem by making each team "temporary specialists" in one part of the process until they were thoroughly trained in it, then rotating to continue cross-training and to reach the goal of task variety.

The QA department held team meetings and critiques when needed during this period, and the teams functioned well, taking responsibility to solve problems and contribute ideas for improvement. Some personnel problems were experienced, but supervisors confronted them or sought help to do so.

February 1975 Project Status

By February 1975, the personnel manager described the QWL project as being "in limbo." Attention to QWL concerns had been constantly put off because of production priorities. Some supervisors remarked that the managers were "fair weather friends" to participative management; they felt that when problems arose the managers intervened without enough regard for the supervisors' or employees' participation. Finally, after the license for the second product was received, the managers met to consider the project's future and HIRI's role. The outcome of this meeting was agreement to narrow their objective to two points: increased involvement in relevant decision making with supervisors and operators, and the development of a feedback system to measure and communicate progress toward production goals (particularly at the operator level). Since, in February 1975, the PI had returned from his scientific exchange visit to Russia, it was HIRI's plan and the desire of C/C management ot have him reestablish a consulting role in the project.

Discussion of managerial progress. It is difficult to judge the swiftness or slowness of C/C's managerial progress. With an inexperienced staff, managerial development in relation to QWL concepts must move through three phases: (a) becoming a supervisor or manager, i.e., forming one's own style, learning supervisory skills, and adjusting to the new role; (b) developing a milieu in which one's subordinates can adjust/respond to the style; (c) expanding the scope of one's QWL concerns, as into the development of advancement systems in support of the QWL concepts. In light of C/C start-up conditions, it probably was not realistic to expect much concern about QWL-centered systems or about the development of individuals during this period. Thus, some of the HIRI interventions may have been out of phase with managerial and operational needs at this time, including the company's reality-required pressure for very speedy profitable results. Concentration in helping supervisors develop better administrative skills might have been more appropriate.

Needed structure. The events of this period demonstrate how necessary it is to have concurrence of policy, method and structure. People were encouraged to talk out their problems, but the time and concrete organizational arrangements were not provided for them to do so. The value of regular team meetings was never demonstrated. A formal schedule and an understanding of a useful agenda for regular staff and team meetings might have spotlighted the effectiveness of the suggested procedures.

Participative or permissive management? At C/C, "PM" was often treated as if it stood for permissive management, and the plant manager felt that management disunity was in part a result of this perception. He felt what was taught about PM to inexperienced managers and supervisors "undid the normal expectations of managers." According to him, supervisors did not learn to support management once a decision was made. New managers who gave their supervisors much freedom heard a tremendous number of problems, concerns, complaints, and suggestions aired, but did not know how to achieve constructive closure. There seemed to be no time to stop and train managers and supervisors in the basic leadership skills, and their learning and development process was, therefore, slowed.

Focusing on Production Performance:
Mid-February 1975 through June 1975

Plant Goals

Once product qualification had been achieved, managers could and did shift their attention to improving process reliability, increasing volume, and reducing expenditures. The plant manager's goal was to concentrate on building effective working relationships, including the development of problem-solving skills within the managerial staff (which he termed "building the organization").

Intervention Focal Points, Including an Interview Survey

The HIRI team centered efforts on finding a way to measure C/C's QWL status as perceived by managers, supervisors, and employees. That assessment would then be used as a basis for setting up new QWL goals, identifying specific objectives, and making plans for their future achievement (plans that would be implemented after HIRI consultation ended). The P-O's efforts also focused on integrating QWL concepts into managers' and supervisors' styles and on increasing managers' and supervisors' attention to and awareness of differing individual needs for job satisfaction and growth.

In accordance with the plant manager's preference, the P-O worked toward these goals primarily through individual consultation and through interviews with a stratified sample of 45 members of the C/C organization. These interviews asked about members' perceptions of QWL goals and the extent to which they felt the goals were being achieved. The interview study results were expected to be the vehicle for the goal setting and future planning process.

Relevant Plant and Corporate Conditions

During this period, when the company was feeling the effects of the economic recession, managers and supervisors worked under strong corporate pressure to reduce costs. Plant managers had been informed that economy measures must continue until a satisfactory profit status was achieved. With the buildup of fatigue and frustrations and the voluntary resignation of a valued extraction supervisor, the new Vice President for Manufacturing came to the plant to assess the situation and determine what was needed to solve the problems. Constructive outcomes resulted from the visit; e.g., a task force of corporate executives was sent to study the situation, and help if possible. It was reported to the P-O, however, that some key persons in corporate management questioned whether what they perceived to be poor morale in the Centerton plant at that time might in part be an outcome of the managerial style encouraged by the QWL project. The avowed purpose of the task force was to address unresolved technical problems in the plant, and in principle QWL was not really a factor one way or the other. In any case, further events, such as the announcement in May of a two-week company-wide layoff due to occur in July 1975 as a result of excessive inventory resulting from the economic recession, continued to present challenges to the morale of the plant population.

The plant manager expressed the feeling that he wanted to make no new demands on the managers and supervisors; that they needed their time to address their job functions rather than evaluate changes or work on new ways of managing. Events up to this point of time were perceived by a number of persons at Centerton to reflect questions on the part of the new corporate management as to whether a participative style was entirely appropriate to the Centerton plant's operation because of FDA, BoB, and Good Manufacturing Practice requirements.*

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*The new corporate management has frequently referred to FDA/BoB controls and Good Manufacturing Practice requirements as substantive reasons for their questioning the appropriateness of QWL program and participative management concepts for application to the new plant. The consultants have felt that this

In April 1975, a tentative understanding was reached between the plant manager and the personnel manager, acknowledging that the latter's major strengths were in the traditional personnel functions of recruitment, employment, training, etc. He was not as strong in "sparking" the QWL program or getting out into the plant to resolve conflicts, counsel with individuals, or provide another channel of communication to the managerial staff. They agreed that his expectations in connection with these latter functions would be reduced, and that there was plenty of need at Centerton for the utilization of his many areas of strength. It should be recalled in this context that the personnel department had suffered cutbacks in authorized strength, thus placing greater time burdens on the personnel manager to attend to the more traditional but essential functions.

Consulting Intervention Outcomes: Spring 1975

A March 1975 consulting visit brought the HIRI PI back to the plant (joined by the PD and P-O) for the first time in months. The consultants found serious interpersonal tension, divisiveness, and frustration within the management group. It appeared that some reduction in these feelings must be achieved before effective plant operation was to be possible and before the QWL goals could be attained. The HIRI team felt that the problems had the best chance of being resolved if they were brought to the surface and frankly discussed by the managers. A series of communication meetings was held involving the Centerton top management group, with consultants in the role of discussion facilitator, catalyst, group process observer, resource person, and advisor if needed. The meetings consisted of giving invited feedback to each member in turn from all other members regarding what (if anything) each was doing or failing to do that interfered with the plant's optimal performance. The consultants encouraged acceptance of honest differences of opinion, immediate nondefensive confrontation of differences, and the provision of structured opportunities to maintain communication. The results

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indicated a lack of understanding of QWL and PM, or an over-readiness to blame outside forces for the new corporate management's own misgivings about the suitability of PM, at least in connection with a start-up situation. The true intent of PM is to invite relevant suggestions or questions from any or all concerned on unresolved problems or on any matters regarding which employees feel they have worthwhile thoughts. In a responsive managerial climate, employees are motivated to care--to feel creative concern--and many of their inputs are valuable for identifying problems or contributing to their resolution. Decision making thus is likely to become both more intelligent and better understood/supported by those required to implement the decisions. Thus, in sum total, a PM style can take account of reality constraints such as BoB regulations, and be worth the time required to listen responsively, and in net balance, serve to enhance operational effectiveness.

were constructive in the sense of identifying and reducing very serious interpersonal conflicts that had virtually shut off effective communication between two members of top management.

To turn the managers' attention to stock-taking or formative evaluation of the QWL project, the P-O offered to do an interview study assessing employees' views of QWL goal achievement in the plant. The staff agreed to the study, which turned into a month-long project of 45 interviews, followed by a qualitative analysis of responses gathered. All managers and supervisors were interviewed, plus one or two operators from each team selected by the supervisor (at the P-O's request) who seemed to be especially objective about the company. When two operators were selected from a team, the request was for one relatively high and one relatively low performer. The P-O's planned follow-up included meetings with department staffs at which findings would be reviewed and plans made for further QWL development. This expected use of the QWL report (regrettably) was not explicitly negotiated with the managers prior to conducting the study.

The report on general organization findings and a specific department analysis, which was given only to the department manager involved, was distributed in mid-April 1975. The reports were considered confidential, but each manager was encouraged by the P-O to share the report with his supervisors (all did so) and with his peers. The General Findings section of the report is reproduced on pp. 63 to 65. A discussion of managers' and supervisors' use of the report will follow. Sections presenting comments from interviewees about how C/C differs from other workplaces, comments from interviewees about the organization in general or its management, and the P-O's recommendations regarding the QWL and organization effectiveness may be found in Appendix F.

Feedback to each group included findings from the interviews and short- and long-run recommendations from the P-O about improving QWL and effective management. In each department, the overall experience of those interviewed was reported as good. Where the job itself was challenging and varied (as occurred to the greatest extent in Engineering and Maintenance), people seemed to be most satisfied. The extent of employee participation, communication, and meaningful work varied in each department. Specific feedback from the interviews about the degree of attainment of these goals was presented in the department reports. The information was qualitative and from a fairly small sample within each area, but it provided a place to begin assessment and discussion within each group.

The P-O had great expectations of using the report as a basis for future QWL planning in the plant and the departments. The new QWL goals statement recently written by the P-O had been included to stimulate discussion and facilitate goal setting. But no prior agreements had been made by the P-O with the managers about the use of the report, and this oversight turned out to be an error. Circulation of the report from manager to supervisors took as long as a month in several cases. Discussions were held between the P-O and each manager, but only one or two expressed any plans for intervention based on the information (except where action was already underway such as in designing personnel advancement systems). The plant manager felt that department managers should have a right to do nothing with the findings, if that were their preference, once they had discussed them with the P-O. The report was accepted as another small increment of information the department had about performance, but not something that required action.

APRIL 1975 STATUS OF THE QWL PROJECT AT CENTERTON AS DETERMINED BY HIRI P-O INTERVIEWS WITH 45 EMPLOYEES

General Findings

1. General Atmosphere and Participation

   There is high concern about and interest in plantwide success. Crown has an enviable set of relationships that require protecting. "Crown still cares about people"--this care requires renewed attention because from other cues, it sounds as if the organization may be at a turning point.

   "For success you must have a close knit family--we're all here for the same thing...and I think Centerton is doing this pretty well."

2. Quality of Worklife Project

   There is a lack of clear understanding of the Quality of Worklife Project, but most people could state positive differences between C/C and other places they'd worked.

   Some question was expressed about who "owns" the project--top managers or supervisors or the whole group (reflecting to some extent the division experienced among management). There was also some concern about who shall have a say in what that management style shall be.

3. Meaningful Jobs

   Most jobs--production, maintenance, QA and other service functions--have fair variety, the challenge of learning, some autonomy, and low feedback. There is generally unclear information about the possibility and procedures for advancement.

4. Communication

There is a general openness to criticism, a willingness to listen and to consider change (although it is perceived that there is less openness and more defensiveness among managers than elsewhere). People feel fairly free to give direct feedback though few do it except in some teams at the peer level.

At the supervisor-operator level, information exchange is generally informal (rather than in team meetings) and preferred so. (In fact, a remark was made that what is needed among managers is relationships, not meetings.)

There is a low level of positive feedback and to some extent, low performance feedback of any kind. Also, feedback is not often expressed in specific behavioral statements such that a person would know what to change upon hearing them.

There is some conflict or at least confusion about the role of the service departments. An attitude is communicated by some that if a person or department is not part of the direct production process, he or she or the department is not worthwhile or is at least of very low consequence.

Managers and supervisors select out the information they will pass on to team members, perhaps with a finer filter than is appropriate. Team members cannot participate if they don't have enough information. In addition, a plant-wide concern for success has been generated, yet plant-wide information is not available to each department to keep people apprised of progress.

5. Managerial Skills

There have been few negative consequences or even follow-up when commitments are not kept. While managers have a long time perspective, supervisors and operators who perform specific tasks have a somewhat shorter perspective; and to the latter, the delay in commitment-keeping or problem-solving has reflected poorly on managerial competence.

There has been a lack of methodical or systematic approach to problem-solving and to building interpersonal relationships, perhaps also insufficient communication about the problem-solving efforts which are in fact made (and may have been successful).

Skills in efficient meeting leadership are low; perhaps more preparation is needed, perhaps more training.

From the sample of 45 interviewees, the general impression given is that notwithstanding some criticisms or some things that could be improved, relatively, in comparison with other companies that also have their problems, Centerton is seen as an exceptionally desirable place to work. On the whole, Centerton has particularly good interpersonal relationships and closeness between employees and management, and offers challenging, meaningful work.

Thus, despite many pressures and certainly a great amount of hard work, from the viewpoint of this third of the entire number of individuals in the workforce, the plant emerges as a well-regarded, progressive setup. The QWL program is given some credit for contributing to this favorable view, but the major credit for it belongs to the plant's management--with or without benefit of QWL concepts.

Comment on the QWL report use. Although the failure in most cases to use the QWL report as more than interesting information was disappointing, in retrospect there was no reason to expect that the report would generate action unless either (or both) of two things had occurred: (a) plans for support and follow-through had been clearly agreed upon by managers before the study was undertaken, and/or (b) the plant manager had used and asked his managers to use the report in the suggested way. There was no norm or model in C/C to indicate the need to do such future planning. The consultants themselves had not demonstrated or emphasized the goal-setting process in the early stages of the project, although as we look back this should have been done. To some extent the P-O was afraid that if she pushed early for commitments to active use of the report, the managers would veto the study altogether. It seemed more important to carry out the assessment at that time, even without such commitments. If we were doing the project again, regular review points and procedures plus standards for goal progress measurement would be recommended to management at the outset. A procedure such as the QWL interview study should not be taken until enough that a memo of understanding, in effect constituting an informal "contract," can be agreed to by all concerned.

One block that had inhibited goal setting and QWL progress review was revealed at the end of the project in the plant manager's responses to this report. According to him, he had perceived no need for (and no existence of) goals other than the one plant-wide goal: i.e., to get production successfully underway. The HIRI group recognized and fully appreciated the production goal, but perceived that there could be--and needed to be, if a commitment to the QWL method was made--a subset of objectives about how the main goal was to be achieved. It may be that this hitherto undiscovered difference in perception could well have been a key obstacle in many intervention efforts.

Managers and supervisors at this time did not recognize the need to deal with small problems of communication or participation early, before they became significant sources of discontent. It apparently was difficult for the managers and supervisors to grant the same degree of importance (a degree that calls for action) to a personnel problem as to a process or equipment problem.

Final Phases of Consultation

In order to build a base of support and responsibility for the QWL project within the organization, the P-O suggested to the plant manager the creation of a committee with representatives from all organization levels to function as a QWL development group. It would seek new knowledge about QWL programs that might help C/C improve, would recommend goals and objectives to the managerial group, and would monitor QWL progress in the plant. The plant manager's response was that until greater production stability was achieved, C/C could not afford the time and energy required for such an effort. He felt too that the plant personnel needed more experience in the current arrangements before a structure was set up that might review progress and consider changes.

The concept of a QWL development group was a good, if late, idea. However, by the time the P-O recognized and pointed out to the consultants the HIRI team's failure to provide originally for an in-house steering committee, the plant was bedeviled with continuing technical start-up difficulties and the plant manager was under great pressure to get them straightened out. If the HIRI team had proposed this idea earlier, they might have helped the plant manager see that such an arrangement had real likelihood of strengthening his ability to cope with many of the problems he wrestled with each long day. In contrast, however, most managers commented in the October 1975 draft review that such a committee probably would not have altered project outcomes.

During this period, technicians and operators were becoming more experienced in their jobs and some of them had come to react to portions of the tasks with discontent, finding them boring and routine. Many wanted to hear more about advancement opportunities, preferably some in the near future. However, managers, and through them supervisors, became more concerned with cost savings and efficiency. In some jobs rotation was minimized for the sake of presumed efficiency, with preferences of operators overridden. Too, managers who were more accustomed to long-range goals than were first line employees found it hard to accept that employees, after less than a year of experience, were champing at the bit for new challenges and advancement. The P-O's interventions about job rotation and task variety wherever practicable did not seem to have much impact on managers and supervisors. There was clear acknowledgement by the personnel manager, though, of his responsibility to prevent insofar as practicable the design of jobs with little motivating potential. In the case of the P-O's relay of concerns about advancement opportunities, the managers, while not uniformly ready to act on this matter immediately, nevertheless seemed to accept the legitimacy if not the urgency of employees' desires for advancement. In several departments, collaborative design of advancement systems by managers, supervisors and employees was in fact begun.

Some managers and supervisors began to "push down" tasks to their subordinates. For some this effort was perceived as developmental training; for others, a response to employees' needs for more challenging work. Interventions that encouraged regularly scheduled opportunities for communication seemed to pay off during this time. Each department by now was holding regular staff meetings between managers and supervisors, and several established or reestablished regular meetings with teams. For example, the Engineering and Maintenance department started holding a weekly communications meeting on Friday afternoons. Meetings between shifts in one department were held to deal with existing problems and increase communications so as to anticipate and avoid problems. Another channel of communication was opened when the plant manager began holding monthly meetings with representatives of each team in the plant. The purpose of the meetings was not only to share information and respond to questions or problems, but also to promote understanding among departments and between teams.

Efforts were made to meet the managers' objective to provide performance data. Comparative data about the plant's performance in two areas were provided to all employees, allowing them to see some of the outcomes of their efforts. Data from the corporate personnel department showed that the Centerton plant had an employee absence rate of 2.3 percent, the lowest among the company plants. Production yield data comparing Centerton with the West Coast operation also were provided.

Articles about QWL programs and specific components (e.g., safety programs) were distributed to the personnel manager and other staff members. These articles were intended to stimulate alternative ideas or solutions to certain types of problems when only traditional or standard responses were being offered to questions or concerns. When training plans were being made, the P-O recommended that present supervisors and managers become involved in supervisory training and in new employee orientation to share with new supervisors and employees their ideas and experiences with QWL concepts as applied in actual work situations. This was not done, however, because of (a) the need for the supervisors and managers to spend time in training in basic supervisory skills, and (b) a preference by the plant manager that each supervisor be encouraged to develop his own individual leadership style.

The managerial group appeared to feel that the series of communication meetings facilitated by the consultants in March had constructive and lasting effects. The plant manager reported a month later that some favorable change in interpersonal relationships had occurred (he did not detail the nature of the change). During the April 1975 consulting visit by the HIRI PD, however, the plant manager expressed the feeling that less direct attention should be given now to attitudes and feelings; that the focus now should be on task performance effectiveness, and if attitudes/feelings or interpersonal problems appeared relevant to that objective, they then could be attended to ("People are tired of working on relationships instead of working on the job"). The consultant commented that attitudes, feelings, and interpersonal relations could be expected to significantly affect task performance, as already had been clearly demonstrated. If managers acknowledged the possible relevance of these factors, there might then be greater "readiness" to deal with them.

In the April 1975 visit, the PD followed up, through discussion with the managers and supervisors, on two points noted in the P-O's status report based on her interviews with 45 employees, namely, clarification of the meaning of PM, and a question that had come up about who "owns" the QWL project. While at the plant, he was asked to consult with a manager who was having some difficulty handling his job responsibilities. This involved personal interviews by the consultant with the manager and each of the supervisors who reported to him. Tension reduction and a more open work climate seemed to follow from this open discussion. Further, during observation of the weekly staff meeting which the plant manager held with all department heads, the consultant tried to facilitate more effective meeting leadership.

Another factor, in addition to the consultants' March 1975 intervention, may have influenced the increased degree of willingness in the Spring and Summer of 1975 to identify and confront problems openly. A new department manager had joined the company in January, and it was his style to address quite directly problems that bothered him (but not necessarily those that bothered others). He observed to the managers that the C/C staff avoided conflict and said that was not his way of doing business. This manager's behavior not only demonstrated the method and often good results from confronting problems, but also forced people to respond to him in such a manner, perhaps thereby learning to become proactive in facing up to problems. On the other hand, his style tended to be autocratic, and to de-emphasize employee participation in decisions affecting the organization and structure of the work. This led to resistance and tension in his group.

The final consulting visit by both consultants came in June 1975 when several meetings were arranged for evaluation of the QWL program. The consultants were asked to and did present their perception/evaluation to the managerial group about where C/C stood in the consultants' opinion with reference to the QWL project. The HIRI group then invited feedback from all managers and supervisors about their perceptions. (The evaluations follow in a subsequent section of this chapter.) Several developmental counseling interviews were held during the visit, and arrangements for future HIRI involvement at C/C were made.

After the June 1975 meetings, the P-O left the plant site except for brief weekly visits. Her help was available upon request, but it was little used. It seemed that C/C wanted to deal with its QWL program at its own speed and with its own resources. To a certain extent such independence is a desirable condition for withdrawal of a consulting intervention.

Progress toward Plant Goals

Strong production progress was being made during this time period, some of it a consequence of re-invigorated group problem solving, perhaps more of it from specific technical contributions made by the task force created to do this, and from specific qualified individuals from the plant and headquarters. Few major technical roadblocks existed now, none of which stopped the production process as had happened in even the recent past. The plant was licensed in May 1975 to sell an additional new product, and proved itself able to operate near full capacity. Data on product yield continued to improve--exceeding corporate projections and nearing the long experience record of the comparable West Coast operation. Concentration on problems in processing techniques among the four supervisors and the extraction manager led to a 33 percent improvement in one product's yield over a period of three weeks. A core of well-trained technicians was able to operate without much direct supervision. Promotions were made, including the promotion of a maintenance technician to a newly created supervisory role.

Managers' and Supervisors' Evaluations of the QWL Project (June 18-19, 1975)

Four meetings for QWL project evaluation were held during the last visit of the consultants in June 1975. Two of them involved the HIRI project team, the plant manager and the personnel manager, and two larger group meetings included (separately) the other managers and the supervisors. At the group meetings the HIRI team provided feedback to the group about their perception of its QWL progress, and solicited feedback from C/C about any aspect of the project.

In the opening meeting (with consultants, P-O, plant manager, and personnel manager), the plant manager explained some of the factors that had been involved in the recent decline of at least some managers' enthusiasm for QWL efforts: (a) based on their experience with, observations of and inferences they made regarding the new owners, local managers questioned whether the new owners valued or supported the QWL project at Centerton; (b) the plant manager didn't want his own Centerton managers to get any misimpression (and thus tell headquarters) that he felt having good interpersonal relationships took precedence over getting the plant into production; (c) the plant manager felt that the vice president for manufacturing might be wondering whether the previous management divisiveness at Centerton was in part due to what might have been perceived as the permissive aspects of the project--the tendency to take pains to hear people out and understand their views--when at times firm decisiveness and demand for organizational discipline "or else" might very well seem to be more appropriate.

The evaluation meeting with managers was informal and unstructured. Following HIRI's feedback to the group (which included some of what is presented in this report), each member of the group contributed comments. The following points were brought out by various persons, including the HIRI team, with regard to how the project implementation might, in hindsight, have been improved:

1. HIRI should have been more assertive (for some managers), but was constrained by plant conditions;
2. ISR survey feedback was ambiguous--and so was its usefulness, especially as "one more thing to do" for managers already under stress;
3. there were weak spots in the content of training--insufficient attention was given to development of basic supervisory skills and to clarification of responsibility, authority, and the process of decision making in the context of "organizational discipline"--that is, support for decisions made until/unless those decisions were changed; also, not enough problem-solving training;
4. goals and standards for the QWL project should have been established and communicated more clearly to all concerned, perhaps with the addition of a "contract" or agreement signed by all concerned to signify understanding and acceptance;
5. conflict resolution seemed to have been avoided under C/C version of PM, in favor of maintaining superficial harmony, whereas more direct confrontation of issues on a face-to-face basis probably would have been better.

Some other observations were:

- Group problem solving and PM concepts had been responsible for significant achievements in at least one production department, and QA felt that the QWL style had been productive for their department.
- HIRI's availability for personal counseling had been of value.
- PM was just another name for good management and supervision; having another name created misunderstandings.

- PM made it more difficult to hire or fire.
- PM was a much more difficult managerial style than traditional styles, and there was a question as to whether it was appropriate to the start-up situation--although the organization should be using PM within six months to two years after start-up.

Because of the key role the plant manager played in the outcomes of the QWL project, his evaluative comments to the group are presented in full on page 71.

Supervisors met with the HIRI team on the day following the managers' meeting. The feedback presented here is from a rather limited sample of supervisors: no maintenance and no filtration or extraction supervisors were present (except a brand new extraction supervisor and one on temporary assignment to Centerton from the headquarters plant. Nearly all of the contributions were from the QA department. While the QA people felt very favorable to the QWL concept and practice, the spirit of the meeting was to inquire how the project or implementation might have been improved. In that spirit, they observed:

1. extensive emphasis on team meetings during training conveyed the (mistaken) impression that that was all there was to PM;
2. such emphasis tended to subdue individual initiative to solve problems;
3. more discussion and training with regard to the key ingredients contributing to effective supervisory style would have helped them develop more flexible ways of managing;
4. the (incorrect) impression was conveyed in training (both for supervisors and employees) that almost every decision would receive input from the group;
5. more help was needed in understanding and implementing job enrichment concepts;
6. the QWL project itself was unclear to some, despite the (admittedly) many written and verbal attempts to make it clear;
7. the company had unrealistic expectations about young and inexperienced supervisors' ability to manage;
8. provision should be made to orient new managers and supervisors to the Centerton management style after the formal project ends;
9. an in-house QWL development person, plus a responsible steering committee or QWL improvement committee probably would have provided needed support to the project.

During the final discussion with the HIRI group, the plant manager commented that he had not been able to devote the time he had expected to commit to the project because of the extensive and engrossing technical problems that had been experienced in the start-up situation.

Discussion

The greatest need throughout the plant's history has been perceived by the C/C staff as the solution of technical difficulties. Some expected the QWL program to solve their problems, then were disappointed when they felt it was not doing so. The plant manager felt, in reviewing the history, that "we taught QWL before we taught supervisors and managers how to do the job; but if you can't do the basic job, then you're not going to invite the P-O in to help with QWL." As a production supervisor put it, "We took what we could at the moment. Now (a year after start-up) would be the time to start a QWL intervention."

The need for strong managerial skills has obviously been a recurrent theme. At least one manager felt in his review that "If you have to be very basic (with the managerial-supervisory group in a given organization) about problem identification and problem solving, then you probably have no business (or there is not adequate readiness for) trying QWL." From the point of view of many employees, however, the QWL project has affected the work experience at C/C in a significantly positive direction.

Plant Manager's Quality of Worklife Feedback--6/18/75

The plant manager offered the following observations:

1. Key production people were selected more on the basis of potential than experience with process, manufacturing or supervision. Less than 50 percent had any experience in manufacturing or supervision. Less than 20 percent had start-up experience. Anticipation of problems and planning for them, and in some cases around them, was therefore very minimal. The net result was a lot of frustration for everyone involved. A very difficult job was made even more difficult due to lack of experience and mismatch between expectations and actual demands of plant start-up.

2. Initial training had certain deficits:

   - It gave major emphasis to a particular style of management but provided little training in basic supervisory skills. Authority of the supervisor as well as responsibilities seemingly was not adequately understood, and perhaps the training program should have anticipated this need and covered it.

- It set up ideal expectations without proper preparation as to what should be expected from a start-up situation, i.e., equipment problems, demands on personal time, etc.

- It did not provide sufficient training in problem-solving techniques nor define responsibilities and authority on the part of managers and supervisors to resolve problems.

3. Structure during start-up was too loose. Boundaries were very wide but lacked definition and understanding. It perhaps would have been better to start with well-defined and understood structure, then loosened after start-up and after major process and equipment problems were resolved.

4. Most training had to do with operating in a democratic way. The organization had very little flexibility for operating in an authoritarian mode when occasionally necessary; thus, there was not much commitment to those decisions for which people had no involvement. This lack of understanding and lack of flexibility presented major problems under the stress and pressure that the plant was subjected to because of financial difficulties. The organization was unable to accommodate honest differences in opinion about the nature of the problems that existed and the proposed solutions to them.

5. Because of many circumstances in preparation for and during start-up, there was little opportunity to develop meaningful relationships of mutual trust and confidence among the key members of the organization. Such relationships provide the glue necessary to hold an organization together under stress. This we did not have, and under stress the organization became very shaky and ineffective.

Crown/Centerton: July-October 1975

Intervention Status

Active HIRI involvement with the C/C staff ended as of June 1975. Since then, the P-O spent some time with the plant manager and personnel manager prior to a training session for new supervisors on the subject of management style. The aim of these discussions was not so much to influence the content as to assure that the plant manager clearly stated a management philosophy to the supervisors and his recommendations for supervisory style. The content of the training program was changed by the personnel manager to reflect some of the needs experienced earlier.

After the last consulting visit in June, the PD tried to facilitate corporate support or at least better understanding of the Centerton project through a meeting on the West Coast on

July 28, 1975, with the corporation's president, board chairman, and vice president for manufacturing. The meeting cleared up some misunderstandings and gained verbal concurrence about the merit of the QWL ideas in general. The corporate management agreed to allow the project to be completed as intended. (Their objection had only been to the completion of the comparison study with headquarters by ISR.) The meeting did not result, however, in communication of active support from the corporate to the plant level.

Centerton Personnel Changes

The months of July and August 1975 were marked by an unusual amount of change. There remained a restlessness among some employees, particularly managers and supervisors, about their jobs. Upon reutrn from the two-week layoff in July, a number of resignations were submitted in the management/supervisory level, although only one of these was unanticipated. The major determinants in the terminations seemed to be related primarily to the job content and expected lack of future promotion opportunities. Long periods of frustration and inability to solve certain problems because of financial strains contributed to the departures. Further, three supervisors were actively recruited by an employment agency for positions in another company. Changes occurred in the engineering manager, accounting manager, good manufacturing practices auditor (who left for a promotion to headquarters and an assignment out of the U.S.) and extraction supervisor positions.

QWL Expectations as of August 1975

A new supervisory training program was conducted in August by the personnel manager. It included substantial presentation of motivation and job enrichment concepts. The plant manager was ambivalent at this time about how much, if any, information should be presented to the newcomers about Quality of Worklife efforts and the concomitant managerial style.

In his presentation to the supervisors, the plant manager said that at C/C "We tried to create a different work situation for ourselves...[based on] some experience and evidence that people are more productive and more satisfied if they are involved."

The plant manager commented that he had learned (and it was known from the research literature) that different people have different capacities for using a participative style. Thus he urged the supervisors to respect their own feelings of readiness to use participative methods. "We approve of and encourage your experimenting with this kind of management--and there is no penalty if you don't succeed with this style...Find some style of supervision that works for you." He encouraged the supervisors to do two things: first, to invite suggestions and ideas about matters that affect their people; and second, to communicate thoroughly about such matters. He pointed out that he felt that the management style did not need (and probably did better without) a "handle" like job enrichment or participative management; rather, the supervisors could better communicate their concern through their behavior. He brought out some of the advantages of group input to problem solving and recommended that they take care to design challenging and varied jobs with some closure (completion of a whole or substantial part of a product) to them. In this manner, he continued to support some of the key concepts underlying QWL improvement.

Organization Performance, September 1975

In mid-September 1975, the plant manager reported that production and other problems were gradually being solved and managerial performance improving. For example, critiques were being held by a multi-level, interdepartmental group after each product fill. With somewhat more time and a few new members of the managerial staff, the plant manager felt he now had the opportunity and the appropriate group with which to do some organization building. He had more time to go out into the plant and work with managers and supervisors on creating an effective supervisory style. Some of the training offered to new supervisors was being presented to the managers by creating time for it through extension of the weekly staff meeting.

V. EVALUATION, LEARNINGS AND RECOMMENDATIONS: WHAT SEEMS TO HAVE WORKED WELL... WHAT HAS NOT... AND WHAT MIGHT WORK BETTER IN THE FUTURE

In the complex experience of working out the relationship of the C/C organization developments to its QWL program, a tremendous number of trial-and-error adjustments have occurred. Much can be learned from this about how better to implement a QWL program and how to avoid certain kinds of pitfalls.

Conditions of the Intervention

The C/C intervention took place in a new plant, small in number of personnel, without a union, and in a rural setting. CMS had had positive experiences with the consultants in the past, and had tried some aspects of QWL experimentation on a small scale in another plant, with considerable success.

There were some significant adverse conditions which affected the project experience, as listed below:

1. The corporation experienced serious financial difficulties during 1972-75, thus the plant opened and operated at a time of severe financial stress. As a result of overall economic conditions and the tight money situation, the plant was on a very stringent budget during construction and start-up. This, together with the corporate drive to attain profitability, served to magnify problems that arose at the new plant site.
2. Unexpectedly, ownership of the corporation changed during the project. The new management had not been a party to the CMS-DOL-HIRI-ISR arrangement, and for a long period was not aware of its existence.* Thus, they had no personal

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*When a draft of this report was submitted to CMS top management for their review, they commented as follows with reference to this point: "The new owners were not parties to this experiment and, when they learned about it in the course of time, demonstrated a generally neutral attitude. The project continued without interference and the contractual agreement to carry out the consultation was not abrogated. However, some individuals at the plant misinterpreted the lack of any particular involvement in QWL by the new corporate top management and considered it to mean disfavor. This understanding affected their commitment to that effort at the plant."

It may be that the intent of the new owners toward the QWL experiment at C/C was to manifest neutrality. However, the HIRI consultants found clear evidence among some key personnel in the plant that they were significantly affected by what they per-investment in this arrangement and did not meet with the HIRI consultants and ISR for a discussion of the project until July 28, 1975.

3. Manufacture of the biological products produced at the plant was tightly controlled by the government through FDA and the Bureau of Biologic Regulations and Good Manufacturing Practices. Procedural regulations sometimes inhibited independence of action with regard to the manner of task performance.

4. Distance from corporate headquarters and from engineering and technical assistance was substantial, and inhibited rapid and frequent help on-site.

5. Only a few people in the C/C workgroup had significant managerial and production experience, and even fewer were knowledgeable about the special difficulties of start-up situations.

6. There was no influential CMS person at either the corporate or the plant level who was particularly knowledgeable about and competent in the practice of QWL interventions. The HIRI research project was on a tight budget, which sharply limited the amount of time the PD and PI could spend at the plant. One consequence of this was that the Centerton plant personnel manager, who was the primary plant staff coordinator and internal "champion" for the project, and who lost his own assistant personnel manager in the company's staff reduction to achieve cost savings, felt that he did not have sufficient time/support from the consultants (despite the full-time presence of the HIRI P-O) to continue his heretofore active role in the project. He was now too "snowed" by the bread-and-butter requirements for personnel recruitment, selection, etc.

7. The anxiety of inexperience, the strong corporate pressure to provide income by successful production, and the number and magnitude of problems with equipment and processes created an extremely high level of stress among managers and supervisors. This resulted in a widespread feeling that there was "no time" to do anything other than wrestle directly (literally day and night) with "debugging" the problems that were preventing the plant from getting into productive operation.

8. The plant had been scheduled to begin operation in January or February, 1974. With that in mind, the HIRI PI felt

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ceived (or perhaps misperceived) as the new top management's probably unintended, but nevertheless, in effect, subtle sabotage of the program by means of withheld enthusiasm.

there would be no problem in continuing plans for a scientific exchange fellowship in Russia, which had been scheduled to begin July 1, 1974, about 4-5 months after projected start-up. As construction, equipment delivery and technical delays mounted, the plant was not able to begin operation until June, 1974. Thus the PI was absent during the problem-laden start-up period, with the PD and P-O covering his role as best they could within a budget that did not permit many visits by the PD who was located in Los Angeles*

What Worked Well

In spite of the difficulties described above, having the consultants and P-O in the plant stimulated new thinking, increased the range of considered alternatives in problem solving, and probably helped some people deal more effectively with an extremely stressful situation. As one supervisor stated privately to the HIRI PD at the conclusion of the October 1975 meeting held to review the first draft of this report:

> I'd like you to know that the opportunity to be here and participate in this QWL thinking about how to manage an organization has been a priceless and gratifying experience for me. I'm young, and this is my first supervisory job. Without the experience, training, reading and thinking about the concepts I've been exposed to here, I might have fallen into the mold of a traditional, authoritarian management style. What we've been talking about here and at least some of us have been trying to practice--usually with gratifying results--fits my values and personality. I will carry what I have learned here with me for the rest of my life, and for that I am grateful to you.

Or, as another supervisor commented privately after the review meeting:

> QWL concepts are continuing to be used in the production deaprtments. One should not expect the QWL concepts to solve the company's technical or financial problems (as some people seem to be expecting). The

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*If the principles of QWL improvement efforts and PM had become a systemic part of C/C's philosophy and style of operating, the impact of a particular consultant's departure would not be severe. In this case, if that departure seriously attenuated the thrust of the consulting intervention, a major shortcoming pointed up thereby is that the QWL project was perceived by the C/C people more in terms of personalities than in terms of guiding principles, or not as basically a C/C project, with HIRI only in a resource role to help C/C implement it.

> QWL project did and does this: It makes operators and supervisors closer, more tolerant [of the jobs and of problems], and more willing to work...PM means that you respect the people who work for you. How you involve them (one-to-one or in a group) is less important.

Probably one of the most effective parts of C/C's QWL program was the design of jobs with large boundaries (despite some BoB limitations) and flexibility for individual task variety within teams, allowing for substantial motivating potential in the jobs themselves. Where there were generally undesirable tasks (such as cleanup) which nevertheless had to be performed, those tasks usually were alternated with other, more desirable ones.

Employee teams seemed to recognize the advantage of cooperation and moved to give help to other members and even other teams where needed. In many teams there was appreciable openness, with numerous suggestions from employees for work improvement and a willingness from most to question management if they felt it necessary.

The managers, supervisors, and original production technicians (those hired in February-March 1974) took part in writing personnel policies and procedures by which they would be governed. As the necessity for a new policy would arise, a draft of the policy was reviewed by the teams. Suggested changes were incorporated where possible, and the revised policy then issued. As a result of these procedures, there were few difficulties or complaints about the policies, and there has been good compliance with them.

Within departments where changes in the work arrangements or policies were planned, these changes were usually discussed with employees before implementation. Where shift schedules had some flexibility (as in maintenance), the technicians had some say about the final arrangements. Where systems (such as advancement systems) were as yet incomplete, supervisors and employees usually took part in their design. Such regular participation in design and in planning seemed to make for smoother implementation of the change.

Managers and supervisors were for the most part sensitive to employees' communication needs. Substantial efforts were made to pass on information about plant and corporate events. Improvement in information flow was made over a period of months, particularly when regularly scheduled staff meetings were established. Even when the staff was under stress, unhealthy rumors contributing to contagious anxiety were minimal.

One department in particular assimilated and applied the concepts of the QWL project quite thoroughly. The QA department seemed to use participative methods of decision making, had several teams that took on responsibility for self-direction (using the supervisor as a resource person), and held critiques after major task efforts. Some special conditions distinguished this department from most of the rest of the plant. Its employees were semi-professional people (mostly with training in biochemistry or microbiology) who had at least two years of college. Further, the entire department worked on one shift (and thus could get together more easily), and the group had a reasonable workload without the equipment or process problems that beset the production group. Of greatest significance to the implementation of project goals was the department manager's outspoken and public commitment to a participative style of management.* He conveyed his expectations to his lab managers and supervisors, encouraged them to attend training sessions and use consulting resources, and modeled the expected behavior himself. He was very specific and persistent in his task demands--to the point of appearing autocratic at times--and fought forcefully even to the corporate level to get policy or procedural changes he felt were needed. His supportive behavior was responsible for the integration of the project concepts into the day-to-day operational style of the QA department. That is, for the QA department, participation was the work-style, not the idealized goal of a research project.

The concept of participation (if sincerely applied) suggests to employees that management recognizes and respects them as individuals, not just as contributors of needed labor or skill. In the Centerton plant this philosophy of respectful regard for individuals was generally practiced and had several beneficial effects for the corporation. The new plant and the expectations for a better worklife seemed to give managers, supervisors, and employees greater psychological and physical energy and stamina to commit to the demands of start-up. Too, it seemed that employees had greater tolerance for the frustrations of delay than they might have had in a traditional setting. The ISR survey data tend to confirm these P-O observations.

What Did Not Work Well Enough... And from Which There Are Lessons to Be Learned

There were some issues and areas that created confusion and problems and some things which just didn't work out well. It should be kept in mind that the Centerton plant is still young and developing, and that projects of this type often require a longer period than more traditional interventions before the desired outcomes can be achieved.

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*It is worth noting that he felt from the outset that his performance as a manager would be judged not only by whether the QA department could do its professional job, but also by how well he implemented the QWL concepts in his department.

In pointing up problems that prevented consistently effective implementation of QWL concepts, we will be basing our comments primarily on data from the production department. The quality assurance department understood, adopted, and implemented QWL principles effectively, beginning immediately after the initial QWL training workshops. The other departments were somewhere between these two extremes, but for the most part the critical difficulties in implementing the QWL project occurred in the production department.

Relationship between C/C QWL Project and Corporate Headquarters

The corporate headquarters had reason to feel supportive of the consultants and of the QWL project at its inception. The subsequent change of management and the financial difficulties preceding that shift lessened attention to the project. The consultants had no direct relationship with the new corporate heads. Making contact, setting up a relationship of trust, clarifying the QWL philosophy, and reconciling it with the new management's aims could not be achieved in time to muster support for the program. Yet, in carrying out an innovative program it is essential that contact be maintained with the influential members of the hierarchical ladder. Where an innovative program may run counter to existing policies or philosophies, it becomes particularly important that constant clarification of the goals and feedback as to the progress of the program be offered those whose support is necessary. Otherwise the effectiveness of the program can be jeopardized.

It is important to add that most of the perceptions that Centerton plant members (and, through them, HIRI) had about the new management's philosophies came from inference. No direct statement about philosophy or about convergence with or divergence from QWL concepts was ever made. Early clarification of corporate position should have been elicited as the management change was made. This was not done because HIRI's points of contact with corporate headquarters advised against making a special point of the C/C project when the new management's attention was focused on major problems of turning the company around from a position of serious financial loss to a position of profitability.

The authors have no estimate on how rapidly new management could have been rallied to the support of the QWL program. That it would have been essential to full program success cannot be doubted.

Staffing Problems

In the original selection of managers and supervisors, C/C may have built in some handicaps for itself by at times emphasizing technical background (even if narrow and not directly related to production of biological products) over demonstrated managerial ability. In other cases individuals were selected on the basis of their developmental possibilities and "potential comfort with QWL concepts," rather than on the basis of combining such comfort with either a record of technical experience in extraction (which was hard to find), or at least with a record of effective managerial performance in a manufacturing plant. Such a combination --if persons with all these qualities could have been found-- would indeed have been desirable.

The time demands of the start-up situation did not allow C/C to capitalize on the supervisors' and managers' developmental possibilities. In addition, the Centerton plant was handicapped by the selection of two managers with a long background of interpersonal friction between them at the home office plant where both had worked. Their transfer to Centerton was made as a calculated risk, with knowledge of their previous history. They both had extensive, valuable experience in handling a group of biological products that were very sensitive and difficult to produce on a regularly repeatable basis. There were few persons with such experience who could be spared from the home office plant, and in fact relatively few in the country (or even in the world) with this sort of specialized know-how. Both wanted to move together into this new situation where they could "start afresh," and the risk seemed worthwhile.

The plant manager, while a graduate engineer experienced in production and plant management, was not expert in or experienced with the technology of producing the kind of sensitive biologicals which the Centerton plant was designed to turn out. Thus, he had to depend on his production managers and on the quality assurance department for the carry-through of the plant's intricate technology.

The choice of an individual to be personnel manager, who also would have prime responsibility for support of the QWL program, is quite important for the success of the intervention. While the personnel manager in Centerton had a substantial background in traditional personnel work, had good administrative skills, had fine conceptual knowledge of the QWL ideas, and was a gentleman with personal integrity, he did not provide a particularly dynamic model in training or in shop floor counseling. He did not offer a high degree of public advocacy of QWL concepts. His sometimes hesitant responses to initiatives for change or exceptions to rules may have stifled willingness on the part of others to bring suggestions or requests to him. In all fairness, however, he was hindered by having a limited staff and by having to devote so much time and effort to trying to get the corporate personnel department to make certain exceptions to corporate policies and procedures necessary for the QWL project. This was misunderstood by some managers and supervisors as reluctance on his part to make changes. The fact that so much of the responsibility for providing internal C/C staff championship and monitoring of the QWL project was given to the personnel manager rather than having this function performed by a steering committee from all levels of the plant was an error in intervention planning.

Turnover of Non-Supervisory Personnel

In the long run, less turnover occurred among QA and E/M personnel than among production employees. Some managers suggest that the QA and E/M employees had more realistic expectations about work because they were hired by experienced managers rather than inexperienced supervisors, and because they had less exposure to the QWL orientation training which some managers came to feel may have stimulated over-idealistic expectations regarding what they would have to do on the job. Of great importance, though, may be the fact that these employees (QA, E/M) always had enough work and usually challenging work to do. In contrast, there were many long periods during the first four to six months of start-up when production employees felt semi-idle, working primarily at housekeeping tasks rather than being directly involved with production tasks. The resultant disappointment, boredom and frustration of production employees may have influenced the greater turnover in these departments.

Problems in Training and Transition to Practice

In his critique of the QWL program, the plant manager suggested that the QWL program did not meet the need for basic supervisory training, but the HIRI team never saw this as one of its responsibilities. In discussing this difference with the plant manager (1/30/75), he agreed that this may not have been part of the HIRI responsibility. He thought that the HIRI role in this regard was never explicitly stated. Whatever the cause, it became clear to the plant manager and to HIRI consultants that most of the production management group at C/C did not have the essential managerial and supervisory skills. This deficit alone was sufficient to account for many of the problems that arose, not only in the implementation of the QWL program but in all facets of plant life. Without adequate managerial and supervisory skills, the HIRI workshops on group leadership, decision making, and individual leadership responsibility were not sufficiently attuned to the "learning readiness" of the managers and supervisors.

In effect, HIRI consultants attempted to train C/C managers and supervisors in participative management principles and techniques before these individuals had sufficiently developed the essential management and leadership skills. The HIRI consultants' failure in this regard was in not recognizing the deficiency in basic supervisory skills in time to recommend ways of remedying it before proceeding with further training in participative management techniques.

To put this problem in another way, the content of the training program did not adequately meet the need for basic supervisory training or for establishing goal-setting, planning, or problem-solving skills. The program design was based on over-optimistic assumptions about the skill levels of incoming managers and supervisors, and the nature of what they would be called upon to do in order to create and sustain a successful QWL program. The self-modifying checks which would have allowed the training program to be altered when this became apparent had not been included. The C/C design, we discovered, needed to be modified to clarify or elaborate the following points:

1. Decision making: Who makes the final decision and how binding is the decision when there is disagreement in the group.

2. Responsibility: The prime responsibility of the manager or supervisor to get results, but without pre-empting the sense of responsibility necessary to each team member.

3. Appropriate organizational discipline in a QWL environment: In an environment where good, close interpersonal relationships are sought between supervisors and employees or managers and supervisors, it seems to be difficult to correct subordinates or apply sanctions if and when problems arise. It seems to be difficult to be a friend and to be firm. Exploration of the difficulties and help in achieving a good balance needs to be provided to the managers and supervisors.

4. Leadership responsibilities: The program did not include sufficient focus on group leadership skills, such as how to elicit effective participation, how to achieve closure with or without consensus, and how to develop common understanding of how a decision was reached and who would be responsible for implementing it. The PI did model this and did explicitly discuss the relevant principles, but apparently more time, repetition and emphasis on this subject was needed with this group.

5. Contraindications to the use of QWL concepts.

Although time was spent both in the training programs and in personal consultation on interpersonal feedback processes and on cultivating nondefensiveness, conflict at C/C was not faced openly and with goodwill. Because frank feedback involved risk--real or merely perceived--for the individual, the problem-solving process was slowed down significantly by the withholding of open communication.*

To facilitate the transition from training to operational practice, HIRI had counted on managerial models and on strong assistance from the P-O. Those models and that assistance did not suffice. Some confusion developed among managers and supervisors about the kind of leadership image to present. Some managers and supervisors felt that there was no place for strong (assertive) leadership in a participative environment. Varieties of leadership designed to meet different circumstances were not adequately demonstrated. The inhibition of leadership in the sense of close monitoring for excellent performance was perceived by some supervisors as contributing to overly long tolerance of employee performance inadequacies. This, in turn, created some misunderstandings and less than optimal results.

Difficulties in Implementation of QWL Objectives

Several managers questioned whether the start-up period was an appropriate time to begin the QWL intervention, i.e., whether there was "organizational readiness" for the program. Given what was learned about the basic skills of the participants, perhaps the project should have been implemented in stages, beginning with a few concepts, clear translation to practice, and good modeling. The consulting resource help that was available then might have been used more effectively.

In the implementation plan, there was no specific internal group or influential individual with clear responsibility to advocate the project. The personnel manager functioned as a liaison and trainer for the project. The plant manager's staff seemed to be the relevant decision-making group, but the plant manager never really gave them (or some subset of them) responsibility for implementing and monitoring progress of the QWL efforts.

The plant manager initially spoke of assuming this responsibility himself. However, as production pressures on him grew to an almost overwhelming degree, and as he encountered confusion about and misinterpretation of QWL concepts, his own commitment seemed to weaken. This inadvertently encouraged those managers and supervisors who were not strong supporters of QWL to begin with, to revert to a more traditional managerial style, and aroused doubts even among the enthusiastic advocates.

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*In contrast, however, the plant manager commented in his review that he felt too much attention was devoted to trying to facilitate good interpersonal relationships and that this left the impression that if they were not good the organization could not operate effectively. He pointed out that many organizations do operate successfully without special concern about the character of interpersonal relationships. He felt that we should have concentrated more on how, in terms of managerial and supervisory skills, to get the job done, with consideration of interpersonal relations as relevant primarily to that context--thus as a means to the end of operational effectiveness and not (as he perceived it) as an end in itself.

A written set of mutually agreed-upon QWL objectives with specific implementation plans was not established, nor did the plant manager have the overt public commitment of the staff to the QWL goals and how they would be implemented. When the agreement in principle to the QWL project was made during the plant design stage in 1972, it was apparently assumed that no explicit administrative, job design, or implementation guidelines needed to be spelled out by the management group. The C/C managers and supervisors expected that implementation would be achieved through training and consultant visits, as well as through basic support from the plant manager. They did not recognize the need for (or have time for) more detailed planning than this. The consulting team should have provided more guidance and should have anticipated these potnetial problems from the outset.*

Another planning deficiency was the absence of contingency plans to deal with unexpected situations. During the long start-up delays, advance planning would have helped find work or training for idle operators, minimizing the toll in disappointment and cynical attitudes. The inexperience of Centerton managers and supervisors was a handicap in this regard; few knew that they would need such plans. To be sure, some problems could not have been anticipated, but the practices of planning might have helped managers deal with surprises.

As new managers and supervisors were selected in 1974 after start-up, they were encouraged by the plant manager to get the job done with whatever was their natural style. They did not have to make a commitment to PM, although they were encouraged to consider that method to attain ego-involvement of their workforce and thereby achieve the necessary productive results. New managers did not attend the training program for new supervisors. This treatment of new managers and supervisors reflected the fact that QWL efforts were still considered a peripheral project rather than a basic philosophy and management orientation to which the Centerton plant was committed.**

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*As well, it would have helped if C/C had been more willing and more able to respond to the feedback and guidance that were given during the course of the project.

**As Rush (1969) points out, companies that are satisfied with behavioral science programs usually do not view them as programs but rather as "a completely different way of improving and managing the enterprise."

The problem-solving system and performance evaluation in the plant needed to be supported by a reward system; as it was, anticipated consequences did not spur people to keep time commitments or project completion target dates. Here again, the lack of feedback of positive results undermined the potentially self-rewarding aspects that should be inherent in a QWL program.

The development of some individuals outpaced the opportunities made available by the corporation's standard staffing patterns. The creation of a new or modified job was believed by the plant personnel manager to be a difficult and lengthy process requiring much corporate review. The anticipated delays inhibited active initiatives by Centerton managers or supervisors. Perhaps a mechanism at the plant level could have been established so that the creation of new jobs or new positions could have occurred when needed, so long as this could be accomplished within given budget boundaries.

Effects of Optional Use of QWL Management Style

Because adherence to QWL principles of job design and management style was recommended but definitely optional, the managers and supervisors at C/C who tended to use the concepts were those individuals for whom the QWL philosophy was congruent with their values and beliefs. This suggests that sincere belief in the indicated style of management and a strongly felt concern about QWL on the part of managers and supervisors are important factors for the success of such a program. Where the individuals' values and concerns do not happen to support the QWL efforts, it is probable that organizational systems must require application of at least the basic concepts if the program is to succeed.

Limitations in Consultation and Participant-Observation

During the training period, the consultants and P-O possibly could have been more effective had they created more situations in which to demonstrate workable strategies for effective problem solving and exercising leadership. With sufficient practice in managerial skills of this kind, some of the time later lost by means of trial and error might have been saved.

Budget limitations affected the intervention achievements in several ways. It was not feasible to have a widely experienced, full-time professional at Centerton acting as P-O. Instead, a very bright, personable, but relatively inexperienced doctoral student in organizational psychology was recruited. It is unclear whether the management and workers in the small southern plant at Centerton could be as accepting of a P-O who was a young woman as they might have been of an older man, even though he might not have been as capable. The complexities of the task proved difficult for her to handle. She was in need of much assistance from the consultants; but the physical distance between the P-O in Centerton, the PD in Los Angeles, and the PI in Nashville served to limit communications to mail and telephone, whereas frequent face-to-face project review meetings (not permitted by the project budget) would have been much more helpful.

Consulting visits were relatively infrequent; follow-up initiatives begun during a visit could not be carried through (by the consultants themselves) until considerable time had passed. More importantly, the principal investigator (chief consultant during the first year of the project) went to the USSR on a scientific exchange before the plant was able to get into production, although start-up was originally scheduled 4-5 months before the PI's departure. Whether due to the PI's absence or not, several of the production teams abandoned team meetings after start-up. Thus, there were fewer opportunities to practice what had been learned in the earlier workshops. It was during the PI's absence that the plant manager and his staff felt great pressure to get licensed quickly and into production, and also during this period that the plant manager (presumably in tune with corporate management) moved further away from whole-hearted support of the QWL project. Upon his reutrn, the PI was informed by the P-O that the QWL project thrust had been seriously attenuated, at least in the production departments. His visit in March 1975 tended to confirm in his own mind the correctness of the P-O's assessment. He never became substantially reinvolved in the project for three reasons: (1) he felt that he probably could not salvage the QWL project for the production department within the time and resources available (including limitations of the PI's own available time); (2) he felt that the project director was now more in the thick of things and better able to attempt salvaging it than anyone else; and (3) his close personal relationship with the manager had suffered because of his absence and the events that occurred during that period. It is understandable how the plant manager, from his perspective, felt that the PI had abandoned him when things were at their worst.

Certain unique developments in the plant may have limited the impact of the consultants as well as of the P-O. For example, one of the difficult consultant-organization issues was the perception by the plant manager that at times the consultants were used by other managers and supervisors as a "court of appeals" in the sense that the consultants would listen to any gripes someone might choose to bring up with them, and that this action delayed acceptance of the plant manager's authority. (This "court of appeals" rubric, it should be noted, also applied to interventions by the vice president for manufacturing.)

Corporate Perception of Major Program Limitations (February 1976)

At the February 2, 1976 meeting between the HIRI PD and P-O, and CMS corporate top management people for the purpose of reviewing this report, the president of CMS stated*:

> The new management at corporate headquarters believes in participative management. But when the house is burning you can't have a 'palaver brigade'. When things are settled down, then you can have a participative approach, but not in a brand new factory with brand new people. Thus, perhaps start-up was not a good time or setting in which to undertake such a study.

The manufacturing vice president added:

> The experiment probably should not have been tried until people had learned their professional jobs. People at Centerton may have misunderstood the project or weren't ready for it. If they were, we'd be for it. Some people used this project to cause problems and troubles--or as an excuse for not getting their essential jobs done (resourcefully, effectively, and with dispatch). You get unhappy when you don't know how to do your daily job--thus you look for excuses. Under such conditions, personnel get frustrated with themselves, and talk their frustrations over among themselves, thereby enlarging them.

The Centerton plant manager summarized as follows:

> During several months (November 1974 to about April 1975) this was the worst situation I've ever lived through, but I still subscribe to the QWL principles. People (supervisors and managers) tended to discontinue team meetings because they had lists of things calling for attention a mile long, and didn't see any need to add to them. We selected people who were compatible with this type of management, but unfortunately not qualified as results-oriented managers, plus not having had relevant production experience.
>
> Some people thought they were being judged on relationships rather than results; they were confused about the leadership role (to see to it that results were achieved expeditiously). Too many people seemed to have the mistaken idea that everyone needed to be involved in almost all decisions, and didn't seem to realize that some decisions could and should be made without meetings. But all this (errors by some in interpreting the intent of the QWL program as originally planned by HIRI with the

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*These quotations are not precisely verbatim, because the meeting was not recorded; they are derived from notes taken at the meeting.

Centerton plant manager) doesn't change my basic beliefs in the QWL concept, properly applied.

We seemed to have created the idea that there would be no conflict at C/C, and they were not prepared to deal effectively with conflict through open confrontation when it occurred.

The section of the report I'd differ with most was the writeup of the November 1974 "kiem tau" meeting. That was not held, from my intent, to review QWL goals and progress. Rather, the objective was to find out why so many intelligent people whom we had brought together in Centerton could be so ineffective in this time period as an organization.

The people felt that participative management was something they should feel (and thus automatically implement) and not just talk about.

Some key people have felt that I, as plant manager, should not think of starting the plant until all major equipment that was giving us problems should be ripped out and replaced. Thus, I felt (in November, 1974) that the ship was lost unless X, who was the vocal leader of this viewpoint, was replaced. It was at this time and under those circumstances that I felt I had to change my managerial approach to one-to-one relationships in order to get into major unresolved problems and try personally to help break the bottlenecks and "can't-do" attitudes that were preventing us from getting things done and achieving some success. This approach of getting into problems myself, on a one-to-one basis, was regarded by some as an unwarranted intrusion, which in turn was a terrible disappointment to me, because as plant manager I felt it clearly was my responsibility, for the benefit of all concerned, to do whatever it took to get the plant's problems overcome and functioning well.

Some aspects of the QWL projects tended to set up divisiveness, such as when I felt a need to function nonparticipatively to solve what I thought were some crisis situations, many of my decisions were viewed as out of bounds and not supported. We had an attitude of "the Centerton plant constitutes a family circle." When that was broken by my firing X under the stress of what seemed to me necessity, it disrupted the plant and the divisiveness occurred between those who perceived and concurred with the necessity for what I did, and those who thought it unfair or unwarranted.

In conclusion, I guess I now question whether in a highly technical plant start-up situation a QWL approach is a

> good fit, or whether it would be a better fit following the shakedown cruise, making obviously needed repairs, and getting into seaworthy condition.

The HIRI team can appreciate these feelings, but believes that through learning what we hope and believe can be gained from this experience, certain major pitfalls can be avoided and the QWL effort thus can be successful, beginning with initial planning and working through the problems of start-up.

HIRI Post-Intervention Evaluation

Another kind of evaluation was attempted in February 1976, seven months after sustained active intervention by HIRI. The following memorandum addressed to the plant manager, production manager, and personnel manager at C/C (Figure 7) is self-explanatory. The questionnaire was distributed to 19 managers and supervisors: eight in production, eight in QA, and three in administration. In response, the personnel manager wrote:

> Your evaluation request triggered one of my own. Since our meeting on the West Coast (February 2), I had been considering a questionnaire to get input from others at C/C as a check against my own perceptions and evaluation of the QWL program--specifically an evaluation of HIRI's role. I felt this would be of value for you as well as for us. So, I "piggy-backed" on your questionnaire.

The "piggy-back" questions added by the personnel manager specify the areas where he felt the HIRI effort was weak.

Responses to the HIRI questionnaire have been received from 18 individuals, 17 of whom also responded to the personnel manager's questionnaire addition. Their ratings (and all write-in comments received) are presented in Figures 8 and 9. The net balance of the responses clearly is on the positive side, but perceived weaknesses stand out sharply.

One important lesson from this is that consultants should not give up their own vital interest in carrying out periodic formative evaluation--for their own and the client organization's information needs--just because they have been relieved of the evaluation responsibility by the grant agency. In the original project plan, HIRI would have carried out this kind of simple (but relevant and meaningful) evaluation about every three months. With ISR receiving a grant for evaluation half again larger than HIRI's grant for intervention, and with HIRI feeling constricted for funds, we "let ISR do it."

Had ISR not been in the picture, HIRI would have had to take periodic soundings and bearings of this sort. In that process, we would have received written feedback of perceived weaknesses in the intervention sooner than we did and, together with the client in our joint venture, promptly would have worked on remedial procedures.

Figure 7

HUMAN INTERACTION RESEARCH INSTITUTE

February 10, 1976

To : Plant Manager, Extraction Manager, Personnel Manager

From: Ed Glaser

Re : C/C evaluation of impact of the HIRI-DOL QWL project

While I expect all of us--and certainly EG, CI and MFC--would agree that in several respects our project could have been handled better than was done at some points in terms of planning, implementing and following through, that is not necessarily to say that it has been a "failure." To judge failure-success, the fair and reasonable procedure would be to rate it in terms of the criteria (the objectives) that were set forth at the beginning of the project. Then we can ask ourselves what have been the results or impact after a reasonable time (such as now), rather than at some particular crisis period (such as between November 1974-April 1975). Or, to what degree has each objective or hoped-for outcome been achieved?

In this spirit, we would very much appreciate your distributing this letter and the accompanying questionnaire to all managers and supervisors, in production and QA, who have been in the plant long enough to be able to respond to the 11 questions with a fair basis for their judgment. The questions were taken from the section of my book which attempted to describe/define what we meant by a QWL program.

Since we are under a great deal of time pressure to complete our revised report, and this questionnaire should not require more than 5-10 minutes to answer, we hope all concerned will mail it back to me promptly. (Signature is optional, but preferable.)

The address is as follows: E. M. Glaser, PhD
Human Interaction Research Institute
10889 Wilshire Boulevard, Suite 1120
Los Angeles, CA 90024

EMG/kng

cc: Mary Faeth Chenery
Bob Foster
Cal Izard
Ed Lawler
X (Former QA Manager at C/C, now located at West Coast Headquarters)
Y (former Good Manufacturing Practices auditor, now at West Coast Headquarters)

Figure 8

C/C Rating of HIRI-DOL QWL Effort, 1973-75

Directions: Each of the eleven items below concerns an element of the climate and modus operandi at C/C that might or might not have been influenced by the HIRI project's efforts. We'd like you to tell us whether there have been any such influences by marking an "X" at the appropriate point on each rating scale.

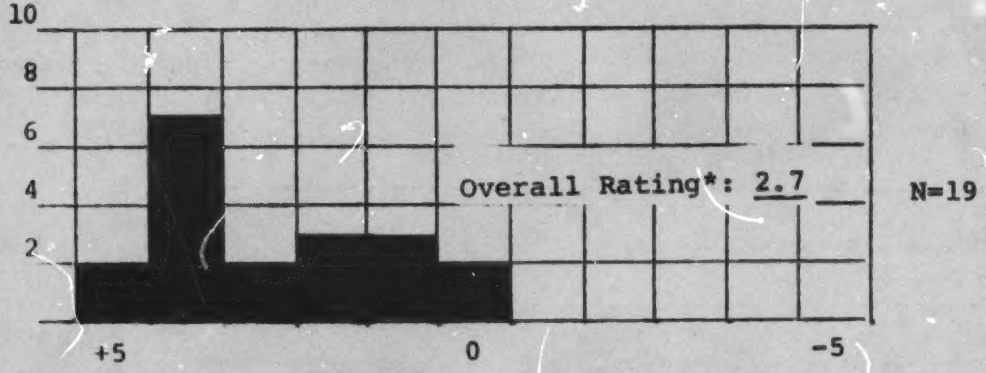
Rating Scale:

+5	0	-5
Appreciably greater degree now than probably would have been the case if we hadn't had this QWL project	About the same as would have been the case if we hadn't had the project	Appreciably less now than probably would be the case if we'd never had the project

(Continued)

Figure 8 (Continued)

1. An ever-present opportunity for individuals or task groups at any level to influence their working environment; to have some "say" over what goes on in connection with their work.



Write-in Comments:

- In my estimation, this resulted primarily due to the efforts of the QA Manager, not HIRI.

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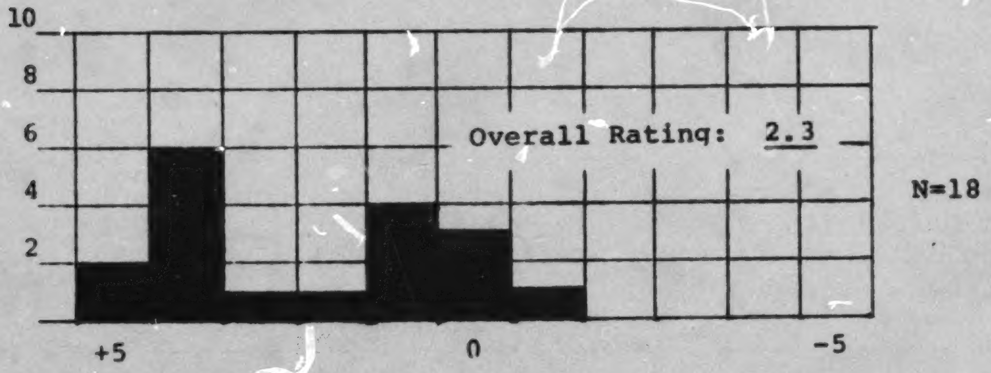
2. An organizational climate and structure that really encourages, facilitates, and is respectfully responsive to questions or suggestions related to improving the existing modus operandi in any way.



Write-in Comments:

- HIRI definitely influenced the structure and proposed an atmosphere designed to encourage employees to participate, but provided only minimal personal counseling in order to aid implementation. Further management interaction sessions would have been valuable.

- After a relatively short period of time, a feeling of resentment regarding the project seemed to be evident in upper management.

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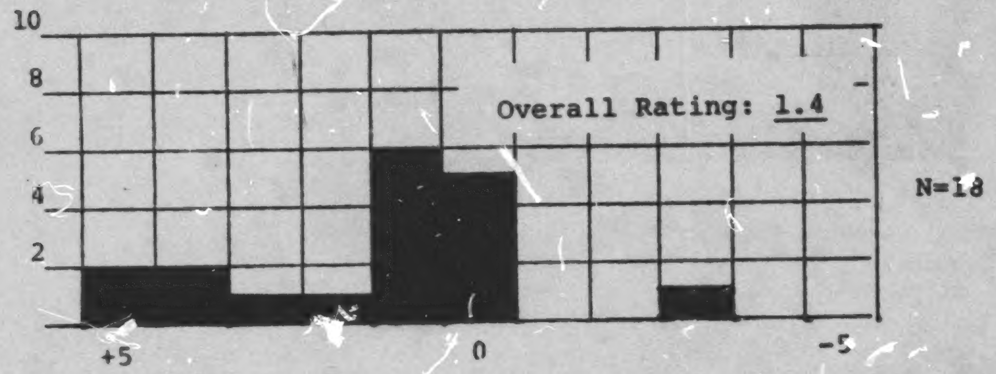
*Overall Rating = Sum of all responses, divided by number of responses. Note--total N will vary from item to item, since not all respondents answered all questions.

Figure 8 (Continued)

. . . .

3. Making the job itself more challenging by structuring it so that an individual or small work team can perform, "self-manage," and feel responsible for a significant, identifiable output if that kind of responsibility is desired.

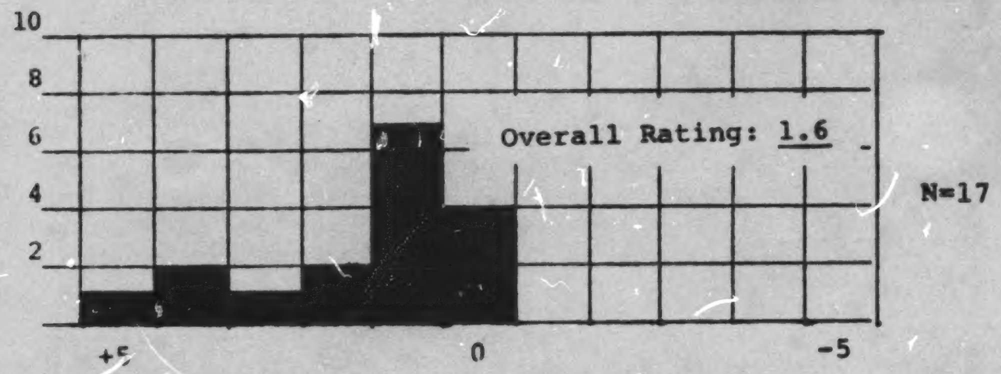


Write-in Comments:

- As with other aspects of the QWL program, this should be an ongoing and refresher type of training.

. . . .

4. An environment that encourages continuous learning, training, and active interest regarding the job, and the product or service to which the job contributes. A setup that enables an employee to use and develop his personal skills and knowledge, which in turn affects his involvement and self-esteem obtained from the work itself.



Write-in Comments:

- Impossible to evaluate because of start-up, ownership change, etc.

Figure 8 (Continued)

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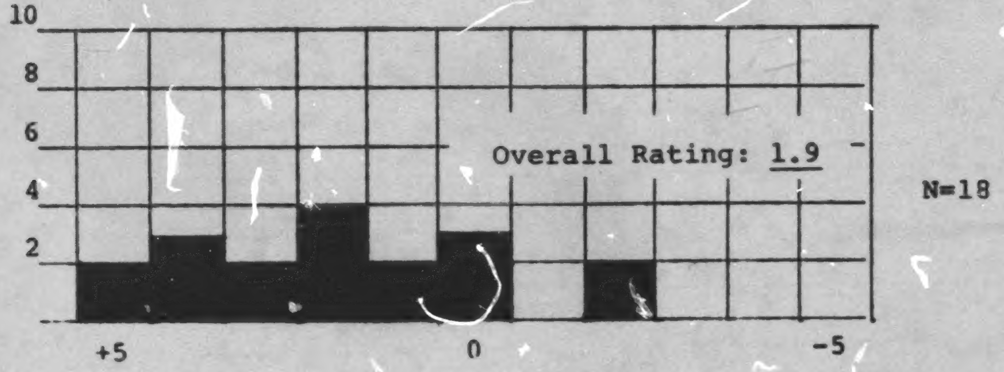
5. An organizational setup that breaks down the traditional status barriers between management and production or support personnel--achieving an atmosphere of open communication and trust between management and the workforce.

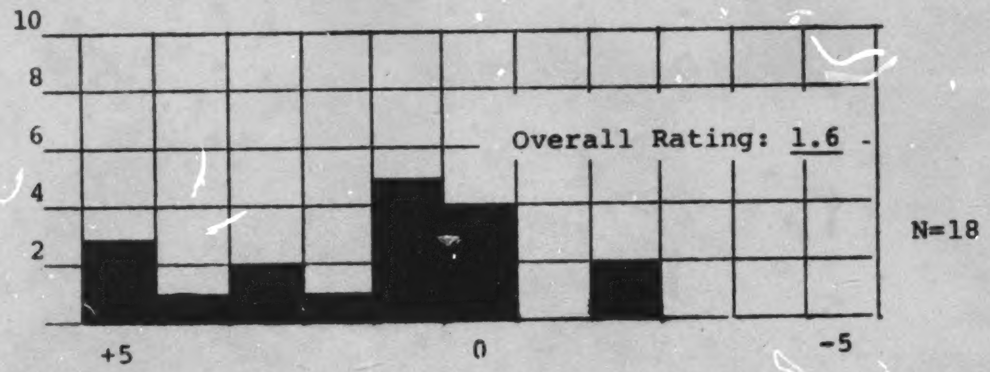


Write-in Comments:

- Seemed to have a communication breach between upper and lower management. Increased the already apparent tensions.
- This segment of the QWL program needs to be reemphasized. On several occasions the attitudes of upper management have been dictatorial rather than following a course of affirmative action. This leads to a closing of communication channels, rather than creating an open atmosphere.

. . . .

6. Provision of training for supervisors to equip them to function effectively in this less directive, more collaborative style.



Write-in Comments:

- This particular industry seems to lend itself to this form of management naturally.
- Supervisor training was sparse during the HIRI involvement but has presently reached a state of total stagnation.

Figure 8 (Continued)

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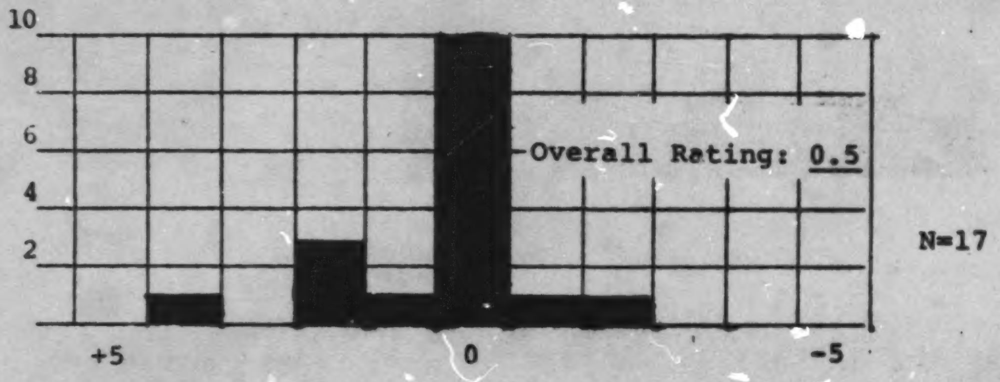
7. Provision of opportunities for continued growth; opportunities to advance in organizational or career terms. *



Write-in Comments:

- The absence of career counseling at C/C severely retards the growth of those individuals who must serve as a pool for future managers. It also does not permit an individual to direct his/her attention to those areas of personal weakness, unless aid is given in the recognition of these areas.
- Some members of lower management were hampered by their support of project.
- We have set up some provisions for hourly employees, but not any for exempt--still have the "traditional."
- No basis for judgment--there is none.

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* This was a long-range project goal to be worked out with corporate top management. As of December 1975, two managers from Centerton have left to accept major promotions within the corporation, and several persons at Centerton were upgraded. When new product lines are added at Centerton, advancement opportunities there will be greater for more personnel than has in fact been the case up to this time (2/76).

Figure 8 (Continued)

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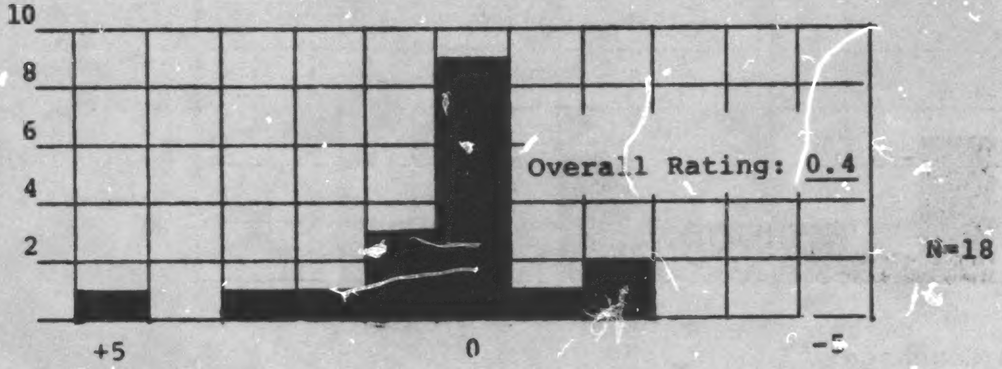
8. Provision not only of feedback with regard to results achieved, and recognition for good results, but also financial incentives such as cost-savings-sharing as a tangible form of recognition where feasible.*



Write-in Comments:

- Most feedback received is of a negative nature. Without a cost-savings-sharing program, a corporation can not expect its employees to continue their efforts without some form of recognition. Also, why is C/C the only sister plant without a cost-savings-sharing program?
- Some limited provisions for feedback--we should have had much more--nothing unique or innovative in compensation provisions.
- Plenty of feedback re performance (or lack of it), but not much help achieving goals.

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* Provision of a cost-savings-sharing plan is considered very desirable by the consultants, thus included here as a long-range goal. It was recognized from the beginning of the project, however, that Crown top management did not feel ready to move in this direction. Systematic feedback of results achieved and recognition for good results should have been better attended to, and not lost sight of in focusing on problems.

Figure 8 (Continued)

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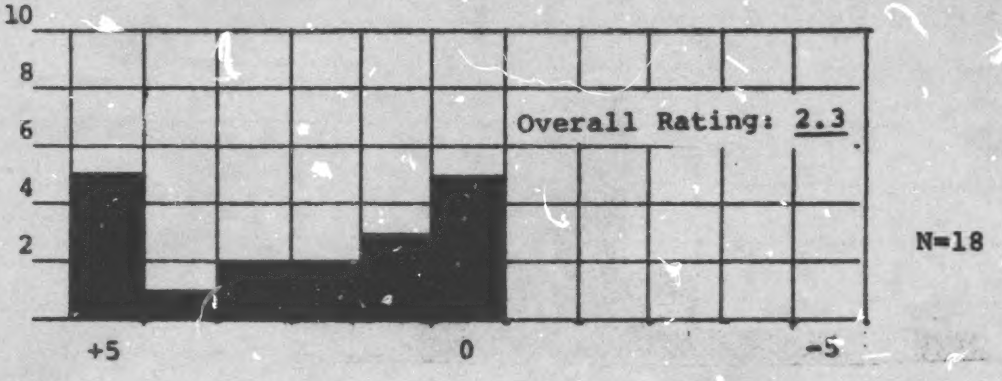
9. Selection of personnel who can be motivated, under appropriate conditions, to "give a damn" about striving for excellence in task performance.



Write-in Comments:

- An excellent job of hiring was done at C/C

. . . .

10. Evaluation and analysis of results, including failures, leading to revised efforts toward continual improvement.

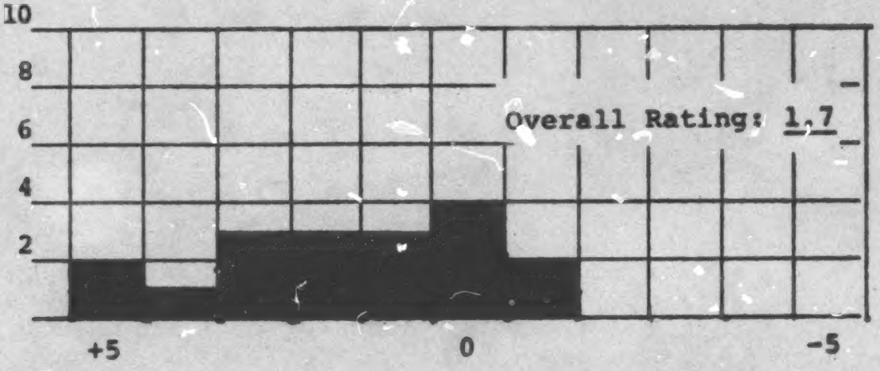


Figure 8 (Continued)

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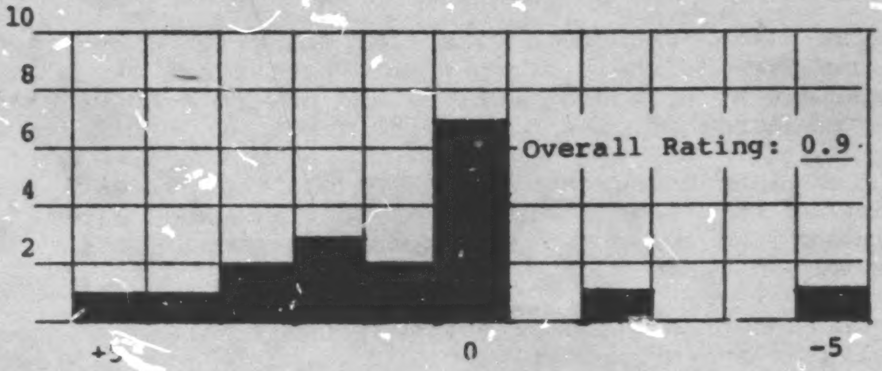
11. Achievement of better-than-average performance results; that is, getting qualified (licensed) by BOB to ship products in reasonably good time, getting good yields, high quality, few bad batches; in short, superior productivity or superior cost-effectiveness in plant operation.



Write-in Comments:

- Too much time wasted in theoretical discussions on how to solve problems and relate to others, instead of learning by working together to solve real, actual problems.

- The QWL program probably hindered this effort because of the large amounts of time spent analyzing problems (rather than solving) and numerous training sessions for employees in P.M. (rather than practical work training).

- The overall goals and methods are excellent, but the project should not have been implemented during an inadequately funded start-up, aggravated by poorly trained operators and a high degree of urgency needed to make plant qualification. The project could have been more effectively implemented in a young, but stable, plant.

- This area is "clouded" by all of the technical and equipment problems/delays we experienced. If these had not occurred, I think we would have had a really exceptional plant qualification and superior productivity, if it had not been for these factors which were not caused by our QWL efforts but which impeded them.

Figure 9

C/C ATTACHMENT TO HIRI QUESTIONNAIRE

In your evaluation of HIRI's QWL project for our Centerton plant, we would appreciate your opinion of the assistance which HIRI offered. Did they adequately assist you in the following?

1. Planning the project and communicating the objectives so you had a clear understanding? Yes 7 No 10

Comments:

- I think that I understood the HIRI objectives, but was confused by the different interpretations of C/C management as to the objectives and how to achieve them and the change of viewpoints with time.
- I had a clear understanding. However, the evidence indicates that others did not. I believe that closer follow-up and commitment of upper management would have helped greatly.
- I never understood the objectives. They were idealistic and unrealistic.
- I still do not believe I have a complete understanding of the project.
- Planning was adequate, but apparently adequate communication was lacking. As late as November '74 we were getting questions from supervisors re "What is participative management?," "What is a supervisor's authority?"
- It is my impression that there was a great deal of confusion about what QWL was and what its goals were, so it seems there must have been failure somewhere to communicate objectives, etc.
- This only came in the last six months of the project.
- The objectives seemed to change through the year.
- Objectives were always somewhat vague, up until the end of the project.

2. In anticipating QWL project problems and assisting in avoiding or solving them? Yes 6 No 10

Comments:

- HIRI had better assistance than CMS for non-QWL problems.
- I received excellent service because I aggressively sought it.

Figure 9 (Continued)

- I think this is the part of the project which was most neglected. We should have had a detailed listing of problems to be expected and actions which would have avoided problems or helped us to quickly resolve them.

- We created problems by getting data that we couldn't understand or know what to do with it.

- I believe that there was a lack of direct experience with the work situation on the part of HIRI people, which was compounded by the lack of experience of CMS personnel hired to start up the plant. I believe that a prior study of the West Coast operation regarding working conditions, dissatisfiers, pressures, organization interactions, etc., would have been of great benefit prior to starting the project.

- Solution for wrong problems.

- Have already cleared up most problem areas.

- This would have been possible only if HIRI was present on a more routine basis and MFC had not been shackled by the plant manager.

3. Providing adequate/competent on-site support and consultative resources for you? Yes 8 No 8

Comments:

- Most excellent in this regard. I wish I had taken more advantage of this resource during the time.

- The resources were there (perhaps a little too late), but few took advantage of them (including me).

- Resources frequently weren't used because QWL had lower priority than pressing production problems.

- I feel that MFC could have been more aggressive.

- The support was overwhelming before the action started, but as the action increased the support decreased.

- Emphasis seems to have been in QA which generally operates (in my experience) along participative lines.

- The counseling of myself with regard to the psychology test we asked to take was useless. It appeared that Dr. Glaser was more intent upon evaluating his test than the person. I had expected to get a profile of myself, my weaknesses and strengths, and how to deal with each. This particular effort in my opinion was a total waste.

Figure 9 (Continued)

- This aspect of the HIRI effort was clearly deficient. Even before CI went to Russia, we needed more day-to-day help. After he left, the QWL program really suffered. MFC tried hard, but it was not enough. At about the same time, Crown's financial situation caused a cutback in CMS personnel time and resources, which compounded the deficiency.

- MFC was idealistic, inexperienced, and a waste of time and money. She was personally involved with some employees and could not make objective evaluations.

4. Provide you with the mechanics to enable you to give/get feedback on and to evaluate the QWL project? Yes 10 No 6

Comments:

- Feedback could have been more detailed and presented in a much better fashion.

- More discussion of how to develop trust in your employees and promote feedback would have been helpful. Although HIRI worked hard on this problem, even more time involvement was necessary.

- Evaluation techniques are often boring and time-consuming and on-the-job problems always take precedence over such evaluation, so I'm sure HIRI's efforts went unnoticed and were, therefore, less valuable. Perhaps different (more interesting, such as C/C actual case studies) evaluative aids would have been more pertinent and successful.

- Too much. Time should have been spent on solving plant problems, not feelings, moods, etc.

- I was always unsure of the HIRI opinion of how the project was working.

- HIRI feedback should have been more specific and set up to enable routine/periodic feedback on a scheduled basis (not just when problems occurred). Possibly the ISR feedback took the place of a HIRI feedback system, but it was not the same as we should have had from HIRI.

- ISR did provide some feedback, however.

- ISR was a separate concern. I feel the program would have been greatly improved with better feedback. But was this one of the QWL's objectives?

Figure 9 (Continued)

5. Was there a major problem which you experienced with the QWL program which you feel could have been avoided with help from HIRI? Yes 7 No 8

Comments:

- In terms of setting objectives at the first of the program.

- The lack of adequate on-site, day-to-day consultative assistance caused many problems which could have been and should have been avoided. The lack of HIRI support for the Personnel Manager's role in coordinating the program hurt. This could have been avoided by HIRI including the Personnel Manager in all aspects rather than mostly excluding him during HIRI plant visits.

- MFC created problems for me by getting involved when she was not wanted or needed.

6. In your opinion, has the QWL program been successful (helpful)? Yes 13 No 4

Comments:

- It gave us some initial direction for our management development.

- I do not believe that we would enjoy the successes we have without the QWL project.

- Very much so in QA. I don't feel the same about manufacturing.

- Training provided was helpful and valuable. The timing of the project with start-up probably caused slightly negative effect overall.

- Most certainly. Now let us have a program on Theory X management so when we fail with the QWL suggestions we will have somewhere to turn.

- I feel it has been successful to a limited degree and I am hopeful that we can retain and build on the successful aspects.

- Yes, because at least everyone is aware that such programs and organizational structures as QWL do exist, and has been indoctrinated that this type of work structure is preferable to more traditional management styles. It, therefore, seems more likely that supervisors and managers will be more critical and evaluative of their own management styles in terms of QWL, which should lead to implementation of at least some QWL goals.

- Somewhat helpful in providing an awareness of QWL ingredients.

- Why don't we call the God-damned thing like it is and forget about it and get on with the business of making a profit for our company.

7. Should we have undertaken it?

Yes 16 No 1

Comments:

- I think the timing was poor.

- I do feel that having accepted the program, we should have committed ourselves to achieving success.

- This is the type of program that all industry must conform to. People will no longer work unless they have a "say" in their working environment.

- Yes, but with qualified, experienced people in all areas.

- I feel I have learned much from the program, and feel C/C has benefited in many other areas as well.

- Yes, but not until two years after plant start-up. We should have had it planned, let everyone know that we wanted to evolve into it and implemented it in scheduled stages--but starting out with the traditional, less demanding/time consuming managerial style.

- One year later.

- Even this much change from traditional management is worth the effort invested.

- Yes, but the project and its goals must continue to be developed and communicated to new employees. Our present training program and orientation needs to be extended and expanded. The time must be made available.

8. If we had an opportunity to "do it over again," what changes would you recommend?

Comments Offered 14
Comments Not Offered 3

Comments:

- Relate the program to the actual problems of the plant

Figure 9 (Continued)

in operation. Develop a confidence that each person's problems and viewpoints would not be discussed with the others and subject to misinterpretation, etc. Establish a more definite commitment from CMS management toward the program.

- (1) Decide on success; (2) have a periodic evaluation of people and group status; (3) get rid of people that can't get it done; (4) achieve your goals.

- (1) More direct feedback more frequently from the HIRI group. They are the experts who were qualified to judge the progress of the project. I wish that they would have spoken out more directly.
  (2) Hire a more experienced group in extraction.

- I would suggest that the supervisors and managers be taught about open communications but to keep a firm hold on their own responsibilities to the company and not go through all this training of employees in QWL which seemed to leave them with wrong impressions.

- More support from upper and middle management.

- Undertake such a program after plant qualified, operating, systems in place, management time available.

- Better presentation of the project. More "on-site" consultation by the "higher-ups" in the HIRI project. Better commitment by department managers and the general manager.

- Get experienced consultants who would not have let inexperienced people be hired to start up a new plant. Concentrate on the results and work on improving the methods, instead of having good methods with no results. Spend as much time in technical training of supervisors as was spent on the personnel relations training.

- (1) HIRI on-site intervention earlier
  (2) Aggressive HIRI intervention
  (3) Group problem-solving sessions (dealing in specifics at C/C)
  (4) Routine critiques (like the session on the first draft for final report) so we could find out how everyone "saw" QWL efforts and his own performance.

- (1) A far more extensive overall view of QWL and its principles, as projected for C/C.
  (2) An encounter session for all management to reduce inhibitions between management levels.

Figure 9 (Continued)

(3) Approval of upper management to permit persons to experiment with QWL. (This was almost impossible under the pressures of start-up.)
(4) Begin QWL program after qualification by BoB.

- An unwavering commitment must be obtained from top management to undertake this program and to allow the plant the time and the financial support required for such a program to be successfully initiated.

- (1) Have Theory Y personnel manager to provide in-house coordination.
  (2) Use program to achieve top quarter of learning curve, not bottom half. Use program to achieve that added measure of efficiency of an outstanding plant.

- Keep Izard in the U.S. Russian trip broke communication, MFC couldn't fill his shoes. I think project began to suffer in his absence.

- This question would take about three days to answer. I feel the recommendations I made during the program still hold true.

9. Do you have any other comments about the QWL program?

Comments Offered 7
Comments Not Offered 10

Comments:

- I believe that QWL is determined basically by the nature of the individuals involved with amplification dependent on the authority level of the individuals. The makeup of a person is pretty much determined before he becomes an employee. Modification must take place to adjust and relate to the people and facility environment. The success of the adjustment and relation and hence the QWL is largely determined by the matching of personal makeups (assuming the facility environment is acceptable) rather than by training.

- I think that many of the problems were encountered because employees expected and some still expect to get anything they ask for.

- It is a good idea--needs more emphasis in realistic situations--needs total involvement, not opposition.

- The name of the project should have been, "Improving Productivity, and in the Process, Improving the Quality of Work Life."

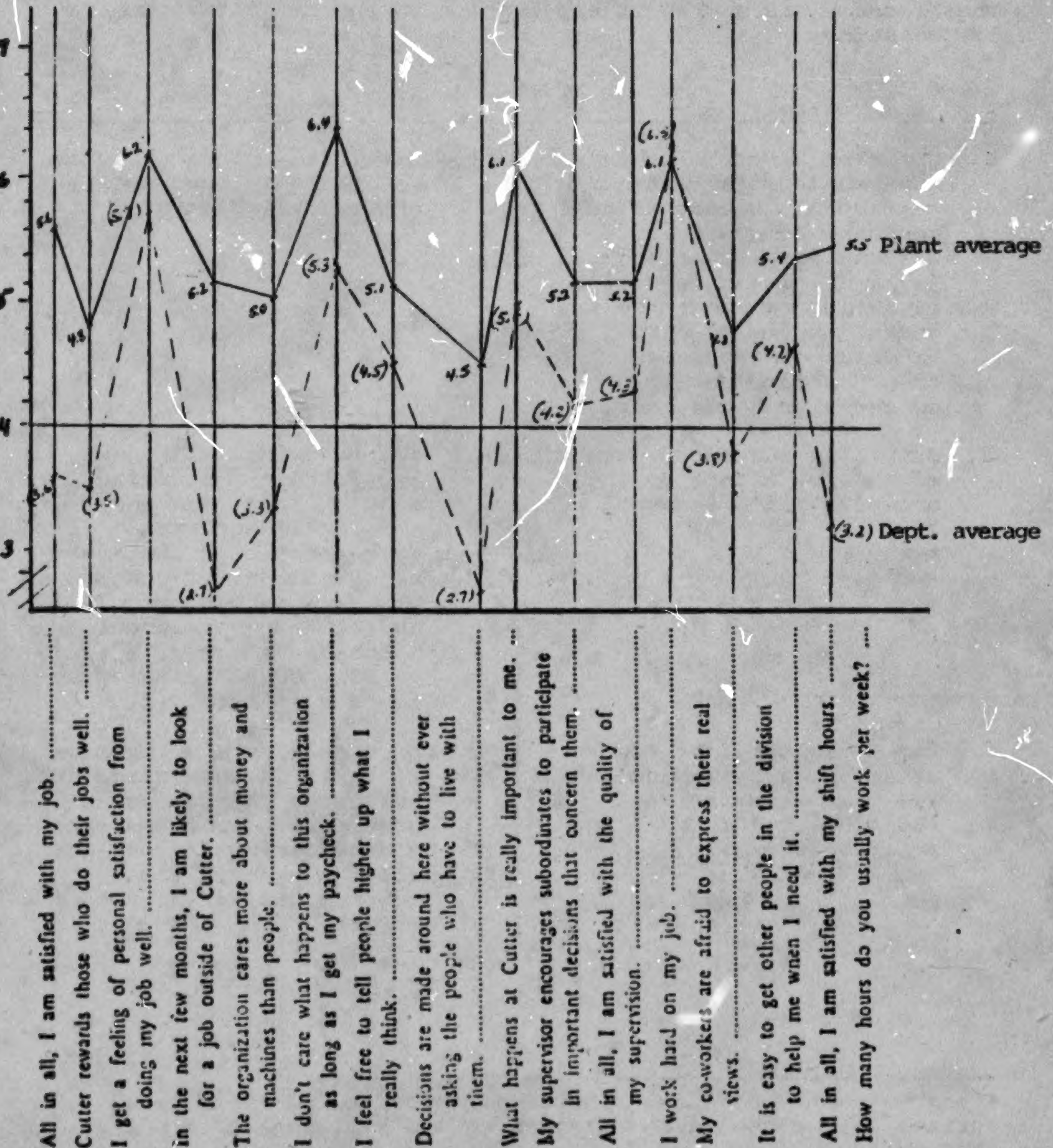
Figure 9 (Continued)

- I feel it was a great idea for this plant, and feel others could benefit with it.
- It is very worthwhile and, frankly, almost essential to do this if we are to increase employee work satisfactions and productivity/quality. If companies continue in the traditional mode, I do not think the free enterprise system in America can survive.
- My comments would be more than I am willing to spend time writing down. If anyone would like to discuss the matter, I would be willing to do so. Only one general comment: A poor workman always blames his tools! Don't blame the program for the problems we have had. If blame is necessary, then blame the people that implemented it!

It may be of interest here to include a graph (Figure 10) from ISR's data, which plots the plant average figures as of January 1975, in response to 16 questions on their Monthly Short Form Feedback Report, compared with the average figures for the department with the lowest morale figures. This department was headed by a new manager brought in from another of the company's plants who had extensive mass production manufacturing experience, little or no knowledge of biological technology, and a hard-nosed, authoritarian "let's get moving without delay" approach to the production obstacles. Concerted resistance from his supervisors and workforce soon developed, and led to a difficult impasse which required considerable attention, confrontation, and "ironing out."

Figure 10

Responses to January 1975 ISR Monthly Short Form Feedback: Plant average (solid line) and department with lowest morale (broken line).



An Evaluation in Light of the Glaser and the Hackman Key Conditions for QWL Success

A final evaluation of the C/C QWL intervention may be made here with regard to what Glaser (in press) and Hackman (1975) consider to be key conditions for sustained success of QWL projects.* These conditions and their application to the C/C situation are listed below:

Glaser	Comment
1. Creating a work climate that would offer attentive, respectful, constructive response to employee desires for such things as having a meaningful voice in decisions about their work, job enrichment, feedback on progress toward attainment of agreed-upon goals, etc.	1. Explicitly planned for at C/C; largely, but not optimally implemented
2. Providing sustained support of the QWL effort by the organization's leaders.	2. Provided initially and explicitly in planning with CMS top management and local Centerton management; not sustained adequately after company was sold in February 1974 and new top management, which had not been a party to DOL-CMS-HIRI-ISR agreement, was installed.
3. Involving the line organization in designing and then assuming responsibility for the program as theirs.	3. Efforts were made by consultants in this direction, but under the stresses previously described, the line organization was not able to sustain their responsibility for the program.

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*Both sets of conditions should be viewed as pre-conditions, criteria that should be attended to and implemented from the beginning.

Glaser	Comment
4. Working out specific attainable goals with task groups or individuals... plus a system of rewards for goal attainment, and an adequate training program --then providing structure and frequent timely feedback to let all concerned know about progress or problems.	4. C/C local managment did not do this systematically. There was training, of course, but experience revealed some gaps in needed types of coverage. Some key goals, such as to get the equipment and processes "debugged" so that products could be produced and sold, were obvious, all-consuming, and were achieved remarkably well under the circumstances. Specific goals, for departments or for task groups were not spelled out in sufficient detail or monitored closely for performance progress.
5. Monitoring or auditing in helpful ways to assist in problem solving and to assure high standards of performance.	5. There was relatively little of this until November 1974, when bottlenecks and delays became so serious that the plant manager personally stepped into certain departments to study and solve some too long-standing problems. Procedures for initiating such actions are still not worked out well.

Thus, on all five of these important conditions, the consultants would rate C/C with less than an "A", and would rate their own effectiveness as less than "A" in helping C/C to achieve those conditions. We might add that no major change (such as introducing a QWL project) should be initiated unless or until certain organizational conditions regarded as essential to support the change are present. This is not to say that QWL should not be attempted in organizations that are experiencing adversity. Many organizations will be more receptive to change when they encounter seriously threatening problems. But the QWL effort must become a better way of focusing on and coping with or overcoming those problems, aside from other "dividends."

Hackman	Comment
1. Key individuals responsible for the work redesign project should attack the especially difficult problems right from the start.	1. All of the issues Hackman lists as related to this ingredient were attended to by both C/C management and the consultants from the start. Certain other kinds of issues, however, such as the need for in-depth training in supervisory practices, for problem solving, for goal setting, and for unobtrusive monitoring of timely progress toward goal attainment, were not adequately foreseen by either C/C management or by the consultants. The consultants assumed that the C/C managers and supervisors would be ready and able to meet these needs. As it turned out, if they were potentially able to do so they didn't, in the press of trying to cope with the urgent everyday problems involved in plant start-up. Further, the relationship between plant and corporation was not defined in a flexible way to specify areas of freedom from traditional policies.
2. Management should make sure that a diagnosis of the changes needed in the target jobs, based on some articulated theory of work redesign, is conducted before implementation.	2. Diagnostic efforts were made in early planning, and as a consequence the job design and staffing arrangements differed considerably from the way this work was structured at the parent plant which produced the same biological products. Whether the diagnosis was as accurate as might be desired remains to be seen; probably it (like anything) could have been better.

Hackman	Comment
3. Management should insure that specific changes are publicly discussed and based explicitly on the diagnosis.	3. Accomplished, but perhaps not as systematically and rigorously as Hackman suggests.
4. The people responsible for the work project should prepare contingency plans ahead of time to deal with both the problems and opportunities that emerge from work redesign activities.	4. This was not done adequately. It is very doubtful that all of the key contingencies were "foreseeable," but some were. Better simulation planning by C/C management together with strong assistance from the consultants should have been provided.
5. Those responsible for the work redesign project should be prepared to evaluate the project continuously throughout its life.	5. This was considered explicitly and carefully in the initial planning. Plans for frequent plant-level review and "taking stock" were made but were not carried out thoroughly. Corporate management, for various reasons, has been reluctant to allow evaluation of home office plant performance for comparison with Centerton. On some important considerations, the corporate management information system does not appear set up for or currently capable of providing the desired evaluative data. Whether survey-type evaluation will be continued at C/C after ISR leaves is quite doubtful.

Thus, in relation to Hackman's key ingredients, all were considered, some attended to very well in the initial planning, and one of them--contingency planning--not done astutely or foresightedly enough.

As Wood and Rasmussen (1975) have noted, the quality of worklife is affected by (1) organizational factors, such as responsiveness of the work culture to employee and customer needs; character of communication up, down, and laterally; personal development opportunities, work structure; (2) physical conditions at work, such as space, light, heat, noise, toxic agents, esthetics; (3) *social factors*, such as leadership style, interaction opportunity, work team membership; (4) *job characteristics*, such as autonomy, skill variety or challenge, pace, task identity or closure, work schedules, task significance, feedback. effort requirements; and (5) *economic considerations*, such as pay, benefits, security: reward amount and perceived reward equity. When these factors are perceived by the workforce to be favorable, then ego-involvement, QWL, and productivity are likely to be greater than in work environments that are perceived by the workforce as poor or relatively unfavorable. Presumably the ISR final evaluation will include survey data to measure those perceptions at C/C.

What Might Work Better in the Future: Considerations and Recommendations for Other QWL Interventions

In the conduct of QWL interventions, we recommend consideration of the following points, some of which were fully recognized in this intervention, some of which became clearer as the project evolved, and some of which, although recognized, were not carried out as skillfully as might--in retrospect--have been possible.

1. Preliminary planning for implementation of a QWL program in a start-up situation involves:

   a. Clarifying the relationship of corporate management to

      (1) the project;
      (2) the plant in which the project is undertaken.

      Such clarification must include the creation of adequate channels of communication among plant, corporate headquarters, and consultants (if any).

   b. Creating a plant committee with specific QWL implementation and monitoring responsibility.

   c. Collaboratively (with above group) establishing agreed-upon goals and procedures for goal attainment, codifying same; e.g.,

      (1) devising systems to support goals;
      (2) creating written material about goals and measurements of progress toward them;
      (3) establishing review mechanisms;
      (4) assigning responsibility for follow-up.

   d. Anticipating problems.

      (1) reviewing sources of previous experience (including literature pertaining to QWL experiments) to anticipate problems;

(2) making contingency plans where problems can be anticipated;
(3) providing flexible adaptation mechanisms;
(4) assuring that there is enough technical competence present on-site or readily available for consultation to deal with the difficult, extraordinary process and equipment problems that experience shows are likely to occur from time to time.

e. Designing training programs based on a realistic assessment of the needs of the specific individuals in the participating group; planning recurring training programs to meet newly identified needs. The design should include consideration of successful transition from training to actual implementation in an operational situation.

f. Structuring opportunities for three-way communication flow; working constantly to structure all parts of the QWL program--management, trainers, workforce--into an integrated, mutually supportive, complementary system.

g. Planning for orientation and instruction of new managers and supervisors.

2. Managers should set up the expectation that problems will arise and should be regarded merely as items needing attention, not as signs of crisis or failure. Modification of procedures or plans should be expected as legitimate outcomes of learning and experience; the group should expect and look forward to change.

3. QWL concepts should be quite clear, understood, and accepted or argued out by all concerned. After agreement on the program, adherence to whatever may be agreed to as essential should be required from those involved. Evaluation-of-progress measures that are taken should be described in the normal everyday terminology in current use in the company, and should relate to the never-ending quest for competent, reliable organizational performance under working conditions that, at least insofar as practicable, take account of people's needs.

4. When an organization feels harried by many serious problems clamoring urgently for attention, QWL consideration or participative styles of decision making need to be perceived as appropriate and relevant to improved problem solving and mission performance or organizational effectiveness. In order for this to occur, people must believe this before the clamoring of problems arises. Results of QWL interventions should be made phenomenologically evident.

5. Persons working in an organization that is concerned with QWL improvement need to be clear about the need for productive task performance, and also need to be clear about the nature of decision-making processes in matters that affect them. The purpose, role, and outcome expectations from meetings must be clarified, and feedback on proposals made at such meetings should be unfailingly disseminated.

6. QWL consultants should work for top management and for an internal group that has responsibility for organization development in the QWL area. (This should include representatives of the union in situations where the employees are members of a labor union.) When outside consultants are invited by an organization to help develop and implement a QWL or an organizational development (OD) program, their most desirable strategy would be to have management create within the organization a well-respected, influential internal consulting group that will serve as consultants to the organization. The outside consultant becomes the consultant for the internal group, aside from consultation with individuals, work teams, and departmental groups. Then not only does the outside consultant help them identify problems, but in the process works with them to develop a methodology for solving problems and assessing outcomes of such efforts. The consultant contributes to immediate solutions and also to the ability of the organization to respond effectively to future problems. However, the consultant must avoid becoming seen as subverting or interfering with the acceptance of managerial authority.

   As an overall objective, the consultant's role should be to help the client organization develop a sustained problem-solving orientation and the organizational and managerial capacity to make it work. A way of providing that help, as suggested by the Group on School Capacity for Problem Solving, National Institute of Education (1975), is to encourage the organization "to make provisions for appropriate people coming together to share perceptions; define problems; generate or search out a range of possible solutions; select and plan to implement a solution; carry it out; and assess the impact of their actions from all their points of view."

7. The outside consulting team should have its own contingency plans and standards for the possibility that it might need to leave before the expected end of assistance. The group might need to leave because of policy shifts in the company; or some key member of the gorup might leave because of some private contingency. In either case, the possibility should be anticipated and planned for so that the organization can be helped to adapt to the loss and provide its own continuity of effort.

8. The consultants should measure their own progress as a check on their productivity as consultants and to see whether the outcomes match their investment. The project goals may be met early, or the probability of accomplishing them within the allotted time may be low. In either event, the consultants should be monitoring their own progress through periodic formative evaluations, regardless of whether some independent evaluation group is charged with responsibility for a summative evaluation.

9. The selection of key personnel should be handled carefully to avoid building in handicaps to success. Administrative ability, technical competence, good leadership skills and openness to new ideas figure significantly in success. Of great importance is a person's ability to get serious interpersonal conflicts out in the open before they fester, and to do so in a problem-solving spirit. An amazing amount of psychological energy that could be applied in productive ways too frequently is used to store and guard anger, distress, embarrassment, and other similar feelings.

10. In-house models (company employees) of the desired behavior must be provided. Such models are very credible to other organization members. The modeling employees can interact with others in terms of real and important problems. (This effect was apparent in C/C where a department manager's behavior increased the open confrontation of conflict, and where an extraction supervisor established the practice of routine, constructive, nonpunitive critiques with his team and caused this procedure to spread.)

11. Participative managerial behavior and QWL support by all members of the team must be tied to a reward system if the behavior is to flourish. For instance, managers' and supervisors' performance evaluations might include consideration of how well they implemented QWL concepts.

Areas for Further Research

Several areas or issues merit further investigation in the interest of determining more effective methods of intervention and gaining a better understanding of the problems involved in trying to develop effective QWL programs. A few of these topics are posed as questions below.

1. General

   a. What kind and level of top management support is required for success of a QWL project?

b. What are the most effective ways of assessing organization readiness for QWL intervention?

c. What sorts of goal setting, reward system and progress feedback/monitoring will best facilitate progress toward goal attainment over the long run?

d. What attributes and experience seem to predict success for a manager or supervisor in a QWL environment?

e. What intervention methods seem to have the most positive impact on QWL development; e.g., training, leadership modeling by a manager or a consultant, apprenticeships, visits to other companies having successful QWL programs, provision of information about QWL programs to the entire workforce, then seeing if requests for such a program arise from the grass roots?

f. What are some of the better ways of continuing a strong commitment to QWL improvement in an organization when there are persistent reality needs and pressures for devoting almost all available time and energy to meeting what seem to be "survival" problems of mission performance?

2. Organizational Structure

How can an organization's readiness for QWL intervention best be measured? This question involves considering how best to measure the support of top management, the existence of adequate communication skills in the organization, and the definition of what QWL readiness might mean.*

a. Measuring the support of top management may be a "subjective" interview task. If senior corporate officials were willing to submit to formal measures of attitude, their responses to such scales as Hackman's and Oldham's Job Diagnostic Scale would define the degree of their readiness to accept PM concepts. To study the procedure of introducing QWL where there is a high or low readiness in the corporate structure, to study the effects of trying to change readiness conditions through education, and particularly to study the effects on corporate readiness of using QWL principles with the managers, suggest a number of lines of further investigation.

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*A promising procedure for assessing any organization's readiness for change or innovation adoption might be borrowed from the A-VICTORY Model proposed by Howard Davis and Susan Salasin. (See Appendix I).

b. The organization can be defined in terms of the fluidity of communication in it. Is it an organization in which rumors fly and ignorance can be demonstrated? Does top management know the contents and discontents of those below; do those below understand the aims, plans, and policies of top management? Simple questionnaire methods can be devised or random samples of personnel can be interviewed for discovering the concordance of perceptions throughout an organization which define the situation of fluid communication and those of unidirectional communication or of noncommunication. To study the process of introducing QWL into organizations of different communicational complexities and to study the differential effects of such introduction on the different kinds of communication patterns is feasible research.

c. What is the irreducible minimum of QWL concepts and practices which can be expected to influence the function of an organization? What is the relationship, for instance, between the development of a small degree of PM and absenteeism? What is the relationship between fluctuations in absenteeism and fluctuations in the quality of production? What is the relationship between the development of a small degree of PM and the quality of production? Longitudinal investigations could study the gradual introduction of QWL concepts and practices to an organization, and compare the success of such a method with attempting a massive program de novo.

3. Personnel Selection Methods

In studying the readiness of any given person to enhance or resist QWL innovations, selection questions further to be studied would include personal variables and the question of "organizational fit."

a. Can we assume that such personal characteristics as flexibility (versus rigidity), people orientation (versus task orientation or thing orientation), high education level (versus low educational level), technical competence (versus relative technical ignorance), managerial experience (versus managerial naivete) are relevant to variations in how QWL will be received? If we hire people who are secure in their technical skills, are they more trainable in human relations skills, or is the introduction of QWL enhanced where people are selected for human relations skills and trained in technical skills? What differences in methods of introducing QWL are determined by the criteria of personnel selection?

If QWL concepts and practices can be introduced gradually, it seems feasible to make comparative studies of these questions.

b. The organizational fit or person and milieu is clearly important. It probably is unwise to ask someone who speaks only Greek to manage a plant in Patagonia. At the same time, is a person more ready to adapt to QWL where the QWL improvement objectives are completely compatible with his milieu, or where the person is aware of discordances? What amount of doubt, of questioning of things as they are, makes for most receptivity to the new project?

4. Training and Planning Considerations

Useful comparative studies could involve different "mixes" of educational efforts. On the one hand, are those efforts designed to clarify philosophy, values, and commitment to procedures of change or of tradition? These efforts would be concerned with understanding the relevance of behavior to the expression of attitude. They would relate to the willingness of management, for instance, to alter behavior, rather than to how they would choose to alter it.

On the other hand, educational efforts may be principally designed to provide skill training in techniques of problem solving, of opening communication, of doing something. What mix of clarification of attitude and training of skills seems best to enhance the introduction of innovations in an organization? Again, easily investigated small situations could be created to provide some answers to this question.

5. Monitoring Systems

The monitoring of results and procedures can be done unobtrusively or bluntly, by an outside person or by the performer himself, in terms of clear criteria or in terms of hazy judgments. Each choice among these possibilities may influence the acceptance of innovation.

The tying of reward to performance, the nature of the reward (positive or negative, clearly a consequence of behavior or arbitrarily attached), and the clarity of the rewarding effort are variables which can be manipulated. Where variables can be manipulated, differences in their effects on innovation can be measured.

In considering areas for further research, it is clear that the complex interactions of many factors make it unlikely that clear do's and don'ts of completely general applicability can be uncovered. Rather, a "cookbook" of effective procedures would include alternatives keyed to different milieus (perhaps including different technologies), objectives, personalities, and histories. Because of this, procedures for introducing significant and complex innovations into an organization must first of all allow for adaptability to contingencies, whatever the ultimate aim.

APPENDIX A

HIRI-CMS-DOL-ISR QWL Project Agreements

HUMAN INTERACTION RESEARCH INSTITUTE
KIRKEBY CENTER, SUITE 1120 · 10889 WILSHIRE BOULEVARD
LOS ANGELES, CALIFORNIA 90024
(213) 879-1373

February 21, 1973

To: (Eight persons from Crown Medical Specialties management), R. Foster (DOL), G. Gibb (HIRI), C. Izard (HIRI), E. Lawler (ISR)

From: Ed Glaser

Re: Draft summary of Crown-DOL-HIRI-ISR agreement at meeting on February 9, 1973

Would you please review the following material carefully, and either advise that it seems OK, or return with your editing or questions.

Centerton Planning, Meshed with HIRI Technical Assistance Consultation

1. Crown management decision to design the new Centerton plant in anticipation of staffing with relatively small (10-25) person work teams and a task structure consistent with job enrichment principles.

2. Designation of Mr.____ as Centerton Plant Manager, and Mr.____ as Production Manager; employment of Mr. ____(January 1973) as Personnel Manager, with these three constituting the nucleus crew.

3. Provision by Ed Glaser and Cal Izard of reading material pertaining to job enrichment, and of entrée, if possible, to other companies which have had successful experience in structuring work along those lines; e.g., Procter & Gamble, AT&T, Donnelly Mirrors, Cryovac Division of W. R. Grace & Co., Motorola, General Foods.

4. Exposure of Centerton Personnel Manager to opportunities and experiences that will best enable him to assume--with full support from top line management--the guidance role in working out plans for staffing and organizing the Centerton plant: e.g.,

    a. Reading, attending seminars, and visiting other companies that successfully have worked out job enrichment programs

    b. Planning and implementing (with HIRI consultation available) detailed selection and training procedures for new categories and groups of personnel as they join the company.

    c. Developing compensation policies and procedures suitable to the increased responsibilities involved in the job enrichment approach.

d. Establishing baseline performance data that can be compared with data from other Crown plants.

5. Discussion of detailed plans, when formulated at Centerton, in conference with appropriate persons at headquarters and HIRI technical assistance team.

6. Tryout of first job enrichment training program with an initial group of Centerton employees (shift supervisors and department managers). This training program to be developed by the consultants, checked out with the Plant Manager, Production Manager, Personnel Manager, and the corporate IR Manager, and presented jointly by the Personnel Manager and the consultants.

7. Selection (with assistance available from Cal Izard) and training of Centerton production employees.

8. Indoctrination of all employees regarding the fixed technical requirements for the preliminary design plan to produce the biological products, and invitation to raise questions or offer ideas.

9. Arrangements to send key Centerton personnel to the West Coast headquarters for training and experience in actual production of the biological products, and arrangements to train other personnel at a local Vocational Training Center.

10. Start-up of operation and production at Centerton.

The guiding principle regarding costs that should be borne by Crown and those that properly can be charged to the HIRI research grant is that Crown will pay for all activities that the company normally would undertake in order to implement the management decision to structure the work along job enrichment lines. HIRI will pay (from its Department of Labor research grant) any extra costs growing out of HIRI's research that Crown would not otherwise need to undertake. Thus, Dr. Izard's time and travel for sustained consultation to Centerton will be paid from the HIRI grant, but the Personnel Manager's travel to other companies (arranged by HIRI) to observe the implementation of job enrichment principles in production plants will be paid by Crown as normal training which the Personnel Manager would find very valuable if there were no research involvement. Re time, the assumption (or hope) is that this will be a three-year study, or that HIRI will be available for three years to work with Centerton and evaluate the impact and results.

The Department of Labor has offered to fund an independent evaluation, carried out by the Institute for Social Research, University of Michigan, of the Centerton-HIRI relationship. The guidelines for that relationship are presented below (drafted by Ed Lawler, edited by Ed Glaser).

PROPOSED RESEARCH AGREEMENT INVOLVING ISR

1. The Institute for Social Research (University of Michigan) researchers expect to conduct the study over a three-year time period. During this time period two kinds of data will be collected and analyzed.

   a. Data that normally is collected by companies as part of the personnel, cost accounting, and production management information systems. Such things as absenteeism records, grievance records and turnover records fall into this category. These data will be collected continuously by Crown and given to the researchers.

   b. Data that are collected by the researchers on a periodic basis. This would include attitude surveys and some direct observation of Centerton employees. At the present time the expectation is that employees will be surveyed when they first join Crown , 6 months after they join, 18 months after they join, and 30 months after they join.

2. The researchers agree to provide management with feedback about all data collected. The researchers also agree to help management interpret the data and give feedback of the results to the rest of the organization if this help is desired.

3. Crown will provide access to relevant company records so that the research can collect production, cost, and personnel data--unless the company wishes to supply these data to the researchers. Any such data collected will be treated confidentially by the researchers, and no company data collected of this sort will be made public in any form (e.g., publication of a research report in a scientific journal) without explicit permission and approval from Crown.

4. Crown agrees to allow the researchers access to its plants and offices so that they can observe employee behavior and working conditions.

5. The consultants (HIRI) will allow the researchers to observe and study their interactions with Centerton. And of course HIRI is free to gather whatever data they may wish and work out with Centerton in connection with their own consultation and and evaluation grant.

6. Crown will allow publication of the scientific reports of the results of the study, but Crown will have the right to veto any publication of production and cost information which might endanger their competitive position.

7. A tentative schedule for the research activity is as follows:

   a. The project would be initiated about three months before plant opening. At this time observations of consultant-

Centerton interactions would begin. This would continue for the duration of the study. All employees would be asked to complete a short questionnaire soon after they are hired. At that time the researchers and management will collaborate in designing an information system for the collection of cost, production, and personnel information.

b. Starting with the plant opening, personnel and financial data would be collected and this would continue for the duration of the study.

c. Six months after opening, an initial survey would be done and some observations of the work would take place.

d. Eighteen months after plant opening, a second survey would be made and additional observations completed.

e. Thirty months after plant opening, a third and final survey would be made and additional observations made.

Cost of ISR Research

1. All researcher time will be paid for by a grant from the Department of Labor to the Institute for Social Research.
2. Crown will not be compensated by the grant for any time its employees spend supporting the data gathering aspects of the research, but that kind of time investment will not be great. By far the major time investment in connection with gathering and interpreting data for the research will be borne by the ISR research staff.
3. All data analysis costs will be paid for by the grant.
4. The researchers will provide no direct consulting help as a part of the grant, although they will be responsible for data feedback and interpretation.

EMG

cc: Mr. Seymour Brandwein
Mr. Judah Drob

A-5

CROWN MEDICAL SPECIALTIES COMPANY

WEST COAST

September 25, 1973

Dr. Edward M. Glaser
Human Interaction Research Institute
10889 Wilshire Blvd., Suite 1120
Los Angeles, California 90024

Dear Dr. Glaser:

This letter is to confirm that Crown Medical Specialties Company approves the accuracy of content and spirit contained in your memorandum dated February 21, 1973, on the subject of "Draft Summary of Crown-DOL-HIRI-ISR agreement at meeting on February 9, 1973."

We appreciate Department of Labor funding of support for organizational development consultation and evaluation of our joint effort to arrange the organization and structure of work at our new Centerton plant in accordance with what might be termed "job enrichment" or quality of worklife improvement concepts, with the expectation that this will result in both greater job satisfaction for all concerned, greater productivity, and better product quality than normally is achieved through traditional work arrangements.

Sincerely,

______________PhD
Vice President for Operations

cc: Dr. Robert Foster
Mr.___________, Chairman of the Board,
Crown Medical Specialties Company

RESEARCH AGREEMENT

1. The researchers expect to conduct the study over a three-year time period. During this time period two kinds of data will be collected and analyzed.

    A. Data that normally is collected by companies as part of the personnel cost and production management information systems. Such things as absenteeism records, grievance records and turnover records fall into this category. These data will be collected continuously by Crown and given to the researchers.

    B. Data that is collected by the researchers on a periodic basis. This would include attitude surveys and some direct observation of Crown employees. At the present time the expectation is that employees will be surveyed when they first join Crown, 6 months after they join, 18 months after they join, and 30 months after they join.

2. The researchers agree to provide management with feedback about all data collected. The researchers also agree to help management interpret the data and feedback the results to the rest of the organization if this help is desired.

3. Crown will provide access to company records so that the researchers can collect production, cost, and personnel data.

4. Crown agrees to allow the researchers access to its plants and offices so they can observe employee behavior and working conditions.

5. The consultants (HIRI) will allow the researchers to observe and study their interactions with Crown.

6. Crown will allow publication of the scientific reports of the results of the study. Crown will have the right to veto any publication of production and cost information which might endanger their competitive position.

7. A tentative schedule for the research activity is as follows:

    A. The project would be initiated about three months before plant opening. At this time observations of consultant-Crown interactions would begin. This would continue for the duration of the study. All employees would be asked to complete a short questionnaire soon after they are hired. At this time the researchers and management will collaborate in designing an information system for the collection of cost, production, and personnel information.

B. Starting with the plant opening, personnel and financial data would be collected and this would continue for the duration of the study.

C. Six months after opening, an initial survey would be done and some observations of the work would take place.

D. Eighteen months after plant opening, a second survey would be made and additional observations completed.

E. Thirty months after plant opening, a third survey would be made and additional observations made.

APPENDIX B

Guidelines for the Selection of Personnel for a Participative Management Environment

Participative Management Attributes

These lists of attributes are not all inclusive. They have been detailed to assist us in our efforts to obtain employees who can function effectively and comfortably in a participative management type of organization structure.

Attributes for Managerial/Supervisory Employees

Personality Characteristics

1. Maturity

   Manages own emotions and feelings effectively and is aware of and responsive to those of others.

2. Responsibility/Dependability

   Strong sense of loyalty and desire to identify with Crown and the people in its enterprises.

3. Interest in Others

   A genuine interest and respect for the ideas and feelings of others.

4. Open and Supportive

   An ability to create and to work comfortably in an "open" and supportive atmosphere with others which fosters honesty and cooperation.

5. Coach or Coordinator

   The ability to relinquish the traditional "supervisory authority" (boss/director) and assume the role of coach or coordinator, while still retaining the responsibility and authority for effective decision making processes.

Communication Abilities

Above average abilities and skill in communication:

6. Listening

   Attentively and focus attention on others using all input sources--both auditory and visual.

7. Expressive

Active and accurate expression of himself and his ideas as well as those of others.

8. Sensitivity

To the inadequacies of communications and consequent pitfalls.

9. Solicit and Evaluate

Ability to actively seek out the comments and ideas of others, evaluate them accurately and yet not make arbitrary judgments.

Supervisory Abilities

10. Focus

Ability to keep self and others focused on work-related problems.

11. Broad Knowledge and Understanding

One who has (or has the capacity for) an understanding of the various aspects and functions of other departments and how all work together and function as a team--the "what and why" of Quality Control, Quality Assurance, Personnel, Purchasing, Maintenance, etc.

12. Realism

Aware of and with ability to enable employee groups or teams to be aware of external requirements outside their group or team and the restrictions which this can cause. Also, able to help employees find ways to accomplish their goals and work effectively within these boundaries or restrictions.

13. Analytical/Persuasion

One who can effectively take the lead in assisting employees in deciding which course of action to pursue or not to pursue.

14. Action Oriented

Ability and strong desire to act on employee suggestions, help solve problems and facilitate accomplishment of the employees and department's goals.

Physical Characteristics

15. A balance of individuals in terms of age, sex and race.

16. Above average level of energy and physical vigor.

17. Strong--mentally and physically with no physical or emotional problems which would interfere with own or others' work.

18. And finally, a person who can admit mistakes, say "I don't know," but who will find out and try again.

Attributes for Non-Exempt and Production Employees

Personality Characteristics

1. Basic Friendliness--pleasant manner

2. Flexibility--Willingness and desire to learn and try new ways of doing things.

3. Maturity-- Manage own emotions and feelings effectively with awareness of those of others.

4. High Sociability--Enjoys working as a member of a team and via group accomplishment.

Physical Characteristics

5. A balance in terms of age, sex and race.

6. Health/Well Being--Good level of energy and vigor. No physical or emotional problems that would interfere with own or others' work.

Aptitudes and Abilities

7. Adequate intelligence, special aptitudes and skills required by work assignments.

8. Good social communications skills, both in self-expression and ability to focus attention (visual and auditory) on others.

Work Related Attributes

9. Desire to learn and progress.

10. Willingness and desire to assume responsibility. Realization that work is both give and take, not all "take."

11. Dependability--Can be counted on to carry out assigned tasks

12. Willingness and ability to work rotating shifts and exert extra effort when required.

APPENDIX C

Tasks, Projects for P-O's Involvement at C/C from 5/16/74

1. Participant-Observation of teams in Production, QA, Maintenance and other areas

   --Understanding of task requirements

   --Develop a description of communication, team style of operating, team leadership style

   --Provide feedback to team

   --Provide some information about team activity and general functioning to management

   --Develop a description of organization climate or worklife from perspective of the individual

2. Team training, participative management, job enrichment training in maintenance department

3. Assist development of new supervisors' training program

4. Preparation of the group record from first training sessions (3-4-74)

5. Third party role in problem-solving situations

6. Follow-up on individual development conferences

7. Team meetings without supervisors for feedback

8. Develop measures of team activity level and grievances or problems

9. Develop expectations or policy for frequency of team meetings (and records of them)

CROWN MEDICAL SPECIALTIES COMPANY

Memorandum

To: Managers and Supervisors cc: Plant Manager

From: Personnel Manager

Date: 5-22-74

Subject: Consultant Activity Related to our Centerton Plant "Quality of Life at Work" Program

---

To update you on the above subject, Mary Faeth Chenery joined us on May 16 and plans to work with us full-time this summer, as a representative of our consultants (The Human Interaction Research Institute). She will work with Managers, Supervisors, and employees. Some of her specific assignments will be:

1. To work with and assist Managers, Supervisors, and employee teams in Production, QA, Maintenance and other areas.
2. To observe and learn what our various jobs are.
3. To assist in Team Training and development.
4. To assist in developing and conducting new supervisor's training programs and on-going training programs.
5. To develop measures of and recording of Team activity and employee problems, and to assist in problem solving.

Mary Faeth will be located in and will work out of Production, QA, etc., as her activities require. She is here to help us, so contact her as required.

Cal Izard will be here on Monday, May 27. His first two days will be pretty well taken up with conducting developmental counseling interviews with supervisors (see attached schedule). If any of you need to spend some time with Cal, please check with him.

Drs. Ed Glaser and Ed Lawler, and Gary Herline (ISR-University of Michigan) and a representative of the U.S. Department of Labor Office of Research and Development will be visiting the plant on Wednesday, May 29th for an on-site progress review and evaluation of our Centerton "Quality of Life at Work" program.

APPENDIX D

Summary Description of QWL Program
August 1974

(Distributed to C/C managers and supervisors in August 1974, and to all personnel hired thereafter.)

* * *

HUMAN INTERACTION RESEARCH INSTITUTE
(HIRI)
Los Angeles, California 90024

Quality of Worklife Program -- Centerton Plant

WHAT DOES QUALITY OF WORKLIFE MEAN?

Quality of Worklife pertains to all aspects of life at work, including job content, working conditions, supervisory and management relationships, organization structure, and so forth.

More specifically for us, it means deliberate efforts which are made to try to create kinds of jobs and the kinds of working relationships which will be meaningful and which will result in high motivation and high productivity of all employees in an open and enjoyable work situation.

A high Quality of Worklife would probably mean:

- Open Communications
- Good interpersonal relationships between managers, supervisors, and employees
- Varied and challenging jobs
- Employee involvement in problem-solving and input into decisions which will affect them
- High individual and team responsibility
- Freedom for individual initiative and advancement
- A fair system of pay and benefits
- Openness to change and to new ideas

HOW DID CROWN GET INVOLVED IN THIS PROGRAM?

On the basis of a presentation by Edward Glaser & Associates to Crown management regarding successful experiences of other companies which have tried innovative Quality of Worklife programs, Crown decided to design the C/C plant to operate along these lines.

WHAT IS THE "PROJECT" PART OF THIS PROGRAM?

After Crown decided to structure the C/C plant according to Quality of Worklife ideas, the U.S. Department of Labor agreed to fund a research and demonstration project, to be carried out by the Human Interaction Research Institute (HIRI) of Los Angeles. HIRI's responsibility in the project is to provide consulting assistance to Centerton in its development of that type of work structure, and to investigate its relationship to productivity and job satisfaction. The project's present title is "Collaboration of Management and Employees in the Organization and Structure of the Work."

WHO IS INVOLVED?

Consulting assistance is provided to Centerton by the Human Interaction Research Institute (HIRI) of Los Angeles, through Drs. Ed Glaser and Cal Izard, and Mary Faeth Chenery.

Independent evaluation of the process and outcomes of this research and development project is being carried out under another U.S. Department of Labor grant by the Institute for Social Research (ISR) of the University of Michigan through Ronie Nieva, Dennis Perkins, Ed Lawler, and others.

WHAT IS BEING DONE?

Consultants work with the plant manager, personnel manager, and other managers and supervisors on team training, supervisory training, development of organization and work structure, development of an open atmosphere and a participative management philosophy and style of operation.

Managers and supervisors take this way of operation --openness to suggestion, group problem-solving, team participation in policies and other important concerns--to employees.

Cal Izard, who started the program off, is currently on a Scientific Exchange visit to Russia until January, 1975. Ed Glaser visits the plant periodically.

Mary Faeth Chenery is here at the plant to provide on-going consultation and assistance with individuals and groups as requested and to keep a history of how we are developing.

WHY A RESEARCH PROJECT?

Through the formal study of a research project, Crown, HIRI, ISR, and the U.S. Department of Labor hope to gain a better understanding of how to improve the quality of life at work, how to make the time that people spend at work more than "just a job," to make worklife more meaningful and satisfying for employees, and how these aspects of work affect productivity. As more knowledge is gained, HIRI and the Department of Labor expect to make this information available publicly so that others may benefit from Crown's experience.

The Department of Labor is very interested in finding ways to improve the rate of productivity; and they believe that changing the quality of life at work may be one way to affect productivity. Improving productivity is one important way to try to stop the destructively high rate of inflation in our economy.

HOW LONG WILL THIS GO ON?

Centerton is committed to operate according to the principles of Quality of Worklife Improvement, changing as time and experience bring new needs and new ways to achieve better organizational effectiveness.

The consultants (HIRI) will be around to help probably for another year. Mary Faeth Chenery plans to be at Centerton for at least another five or six months and perhaps until June, 1975.

The Institute for Social Research will continue to gather data for another year, though perhaps less and less frequently.

MORE QUESTIONS?

If you have more questions about the research or the Quality of Worklife Program as we are trying to implement it at Centerton, please ask your supervisor, anyone in Personnel, or Mary Faeth Chenery.

APPENDIX E

Crown/Centerton Quality of Worklife Goals

1. PARTICIPATIVE MANAGEMENT "A style of management that invites participation or consultation from appropriate members of the workforce on matters which affect them and with regard to which they have some relevant input...It is this style that tends to increase the psychological meaningfulness of work."	a. Participation invited, encouraged, and rewarded in matters (such as policy formulation, staffing, work arrangements, problem-solving) that affect the employees. b. Openness to consideration of change (i.e., honest listening) c. Explanation given on reasons for requests or decisions (people are told "why") d. Prompt and considered response given to each contribution (question, suggestion, problem) e. Periodic reviews of organization and task performance effectiveness and progress toward goals are held.
2. OPEN, THOROUGH, TIMELY TWO-WAY COMMUNICATION	a. Employees well-informed about company's products, events, policies, problems, achievements b. Regular and frequent opportunities provided for information exchange, critique, and problem-solving (e.g., staff meetings, regular team meetings, shift change); continual openness to and invitation of criticism, question, challenge, and suggestion c. Feedback given about an individual's or task-team's performance--informally: prompt, specific, and frequent; formally: by timely use of the performance review system

2. OPEN, THOROUGH, TIMELY TWO-WAY COMMUNICATION (continued)	d. Production feedback system developed and implemented (feedback from the job itself) e. Written documentation of goals, plans, agreements, etc., to facilitate clarity, a common understanding, and follow-up.
3. MEANINGFUL JOBS	a. Small work teams used when practicable; jobs involve production of whole or substantial part of product (not a tiny fragment) b. Challenge and a variety of skills called for c. Some autonomy and responsibility for individuals and teams d. Individuals receive feedback on their performance from the job itself e. Opportunity for advancement and learning f. Adequate technical training g. An appropriate amount of work h. Clean, safe environment with fair pay and benefits

APPENDIX F

Comments from P-O's Interviews with C/C Personnel (April 1975)

Comments About How Centerton Differs from Other Workplaces

--more freedom

--more people-oriented

--participation of managers and supervisors and sometimes employees in policy setting

--closer relationships, more friendly, we work together

--higher calibre people, more technically competent; relationships are built on the basis of competence rather than personality

--a physical facility well-thought-out and well cared-for

--the sense of urgency plus the freedom to express oneself (meaning you can walk into anyone's office anytime) makes the company very results-oriented. That's appealing.

--the fact that the Quality of Worklife project is here at all . . .

Comments about the Organization in General or Management (Direct quotations or paraphrases)

Centerton (C/C) is a very young organization (in management skills) but receptive.

The general atmosphere is not as open as had been expected.

There were confused expectations about one person making a decision--some complain that you have to call five people to make one decision, plus they feel that the plant manager makes decisions where others don't want him to . . .

In the past there has been a misunderstanding that people should participate in everything.

C/C is good at problem identification, not so at problem-solving or commitment to implement or followup; part of the problem here was overemphasis on individuality (therefore people didn't feel they had to support solutions). There has been a lack of quick followup when a commitment was not kept.

I question what commitment C/C has to participative management (PM).

Listening skills are needed.

What is need among managers, super-technicians or basic administrators?

Roles and relationships between production and the service departments are clouded at times; we need relationships not meetings.

There are too many people at some meetings when they should be there for only part if at all.

Real communications just don't get to the right people.

The PM style and QWL efforts are seen as a hassle by some managers, but the people seem to respond to it.

"Distrust comes when a manager doesn't share his inner feelings. Then a change comes and you don't know why--whether it was something you did or what. There's a need to get close to people so you know."

They set the goals too high when they opened the plant . . .

Recommendations Regarding the Quality of Worklife (And Organization Effectiveness)

1. The quality of Worklife efforts at C/C need to lose their status as a project and become an integral part of the Centerton plant operation.

2. HIRI should collaborate with the personnel manager et al. to develop a method evaluating the QWL in the future (e.g., a semi-annual QWL Audit) and to develop a training program (managerial, supervisory, and employee) in light of the learning from this project.

3. In general, managers and supervisors need to be more methodical in what is done, to push beyond the problem to a plan and action steps.

    a. Beyond just eliciting participation from employees, such participation should be rewarded (in feedback and performance reviews), and a response to the participation (be it question, suggestion, or problem) should occur in a timely and thorough way.

   b. Training, modeling, and practice in meeting leadership and problem-solving should be provided.

   c. In information-sharing, accuracy needs to be emphasized, and perhaps some training about perception differences needs to be part of orientation. I have noticed a tendency among people to exaggerate and have found that this exacerbates inter-departmental difficulties.

4. More frequent, more specific, and more timely feedback about people's performance needs to be given. Supervisory training in evaluation, review, and feedback is recommended.

5. Openness to criticism is a matter of modeling on the part of managers and supervisors. The staff and supervisors need to work with employees to let go of the past and concentrate on new needs and new solutions. I would recommend that managers and supervisors make an effort to seek feedback from others, until it becomes a natural exchange.

6. More news of events in other areas of the plant and of corporate happenings is needed in each department. This should be provided through the representative meetings, supervisor reports, inter-departmental exchanges, or other channels devised.

   a. A sales representative should come to the plant to discuss with each group the use of the products and marketing affairs.

   b. Whenever possible, interdepartmental exchange of members should be encouraged, primarily for training purposes, but with the secondary intentions of enriching the variety, challenge, and breadth of the individuals' jobs and especially increasing the understanding between departments of the various functions and problems, as well as what help can be given to the other. (Discuss with QA the similar exchange already conducted between the bio and chem labs.)

7. Discuss, clarify, and agree upon the roles of the service departments (QA, Accounting, and Personnel, plus Maintenance) in relation to production.

8. Arrange supervisors' meetings across departments for exchange of perceptions and experience (to increase understanding), and later as a forum for training.

9. Effective use of good job design principles will do much for improving and maintaining a good quality of working life at Centerton. In the future, each manager should be responsible

for evaluating, creating, and maintaining meaningful jobs. Review of job content and design should be part of the QWL Audit. In the long run, new jobs created should perhaps be reviewed by the staff or another knowledgeable group for "motivating potential" or good design.

I believe that the Centerton management group should feel reinforced by this report in the job that is being done to create a good working environment. You should perhaps note as well, however, that you may be on the edge of becoming more concerned "about money and machines than people," and should support, encourage, and renew efforts to insure participation, communication, and meaningful work.

APPENDIX G

BIOGRAPHICAL RESUMÉ OF CARROLL E. IZARD

Dr. Izard is a clinical psychologist and Professor of Psychology at Vanderbilt University. He has been involved in the area of human resources development since 1955.

In addition to his teaching responsibilities at Vanderbilt, Dr. Izard has been Director of the Psychological and Counseling Center (an inter-university center, with Peabody College) since 1968. He has been a member of the Vanderbilt University Afro-American Affairs Committee since 1969. He also has served as Director of the University Counseling Center, Director of the Clinical Training Program, and Chairman of the Race Relations Committee.

Dr. Izard received his Phd from Syracuse University in 1952. After completing his PhD studies, he worked for three years as a research associate, first at Tulane University and later at Research Associates, Inc. of Philadephia. From 1955-56 he was a Specialist in Individual Development and Human Relations with the General Electric Corporation.

He has published numerous professional articles and books, a selected sample of which is listed below. He holds a Diplomate in Clinical Psychology, ABEPP. He is a Fellow of the American Psychological Association, Editor of the Tennessee Psychologist, member of the Southeastern Psychological Association, past president of the Tennessee Psychological Association, past chairman of the Finance Committee and Tennessee Delegate for the AASPB, and past member of the Tennessee Board of Examiners in Psychology.

Selected Sample of Publications:

a. The face of emotion. New York: Appleton-Century-Crofts, 1971.

b. On understanding and promoting human effectiveness. ONR 2149 (03) NR 171-609 Technical Report No. 29, Vanderbilt University, 1966; also in The Human Context, in press.

c. Personality characteristics associated with resistance to change. Journal of Consulting Psychology, 1960, 24, 437-440.

d. Prediction of peer leadership ratings by forced-choice test under varied experimental conditions. Educational and Psychological Measurement, 1958, 18, 57-62 (with N. Rosenberg).

e. Personality characteristics (PPS), level of expectation, and performance. Journal of Consulting Psychology, 1962, 26, 394.

f. The emotions and emotion concepts in personality and culture research. In R.B. Cattell (Ed.) Handbook of modern personality theory. Chicago: Aldine, 1970.

g. A method for measuring interpersonal perceptions and feelings. ONR 2149 (03) NR 171-609 Technical Report No. 9, Vanderbilt University, 1962. American Psychologist, 1962, 17, 360 (abstract).

h. The effects of spontaneous and experimenter-induced affect on performance. ONR 2149 (03) NR 171-609 Technical Report No. 24, Vanderbilt University, 1965 (with M. Katahn, R. Murphey, and J. Fox).

i. Personality profile similarity as a function of group membership. Journal of Abnormal and Social Psychology, 1963, 67, 404-408.

j. Fundamental emotions involved in black-white encounters characterized by race prejudice. Proceedings of the American Psychological Association, 1970 (with J.E. Chappell and F. Weaver).

Consulting Orientation

My principal focus is on human emotions and their role in motivation, personality, and social interaction. In consultative work, I try to be especially sensitive to emotional barriers to interpersonal and group communication.

In attempting to develop the team concept as a means of implementing QWL principles, I concentrated on the development of an atmosphere in which honest, open communication could occur without penalty. I assumed problem- and task-centeredness on the part of technicians, supervisors, and managers, and dealt less with the technical elements of their interchanges and more with the "human" aspects of their participation. While stressing the positive values of wide participation in group problem solving and decision making, I attempted to recognize and facilitate the development and acceptance of adequate organization and leadership within the teams.

BIOGRAPHICAL RESUMÉ OF MARY FAETH CHENERY

Mary Faeth Chenery has been involved in the areas of management and organizational development since 1972.

From 1972-73, she served as a Graduate Teaching Assistant at the Babcock Graduate School of Management, where she taught courses in Creativity and Interpersonal Skills in Management. During this time period, she also worked as a management consultant for a summer camp. In 1974, she deisgned and with several colleagues taught a 5-month graduate seminar in Organizational Development at Vanderbilt University.

Ms. Chenery received the A.B. (cum laude) in General Studies from Harvard University in 1971; in 1973 she was awarded a Master's degree (with Distinction) from Babcock Graduate School of Management, Wake Forest University. She currently is a doctoral candidate at North Carolina State University, working toward a PhD in Human Resource Development.

Publications:

a. The self-start attitude: New attention to the goals of camping. Social Agency Management (in press).

b. A counselor's companion to the staff manual. Camping Magazine (in press).

Consulting Orientation

My actions as participant-observer were guided by the belief that organizational change depends upon the willingness of organization personnel to take risks--generally small risks in communicating and in trying out new behaviors. The consultant's role in facilitating change then is to model such risk-taking behaviors, help clarify the nature of the risks, suggest strategies to make the risks manageable, and point out the gains to be made from taking them. For continued development, organization members must begin to take risks publicly (that is, leadership must be expressed).

I believe it is of great importance in organization development for leaders to write down and clarify philosophies and goals. Structure must combine with good intentions and philosophies in order to achieve goals.

My actions are strongly grounded in a respect for individual choice, which meant in this experience a somewhat non-assertive role. My understanding of the participant-observer role also called for a fairly unobtrusive style, definitely not a leadership or advocate position. This emphasis was, of course, influenced by the lack of organizational power in support of the consulting intervention.

BIOGRAPHICAL RESUMÉ OF EDWARD M. GLASER

Dr. Glaser is a consulting psychologist and has been engaged in human resources development since 1946.

In 1952 he established his own national firm of psychological consultants to management--Edward Glaser & Associates. The firm's main office is located in Los Angeles. Dr. Glaser also is president of the Human Interaction Research Institute, a nonprofit, multi-disciplinary institute devoted to behavioral science research and the application of research findings to relevant societal problems. Dr. Glaser also is Adjunct Professor, Union Graduate School, Antioch College, Yellow Springs, Ohio.

Dr. Glaser received his PhD from Columbia University in 1940. While completing his graduate work, he taught psychology and served as Principal Investigator for the Committee on Medical Jurisprudence of the New York Academy of Medicine in their study of legal procedures and problems connected with assessment of the criminally insane in New York State.

During the war, Dr. Glaser served as a Classification and Selection Officer in the Navy (Lt. Cdr.). Prior to his naval service, he was a psychologist with the U.S. Public Health Service, doing research and psychotherapy with special problem cases at a federal reformatory.

He has published numerous professional articles, a selected sample of which is listed below. He holds a Diplomate in Industrial-Organizational Psychology, is a past president of the Southern California Psychological Association, past chairman of the APA Ethics Committee, has been chairman of the California State Psychology Examining Committee, and is a past president of the Division of Consulting Psychology, American Psychological Association. He is a Fellow of the American Association for the Advancement of Science and of the American Psychological Association. In March 1967, he was invited to testify on research utilization before the Senate Subcommittee on Government Research.

Selected Sample of Publications:

a. An experiment in the development of critical thinking. New York: Bureau of Publications, Teachers College, Columbia University, 1941; and Watson-Glaser Critical Thinking Appraisal, New York: Harcourt Brace, 1942 (plus subsequent revisions)

b. Organizational arteriosclerosis: Its diagnosis and treatment. Advanced Management Journal, Vol. 30, No. 1, January 1965.

c. Watson, G. and Glaser, E. What we have learned about planning for change. Management Review, Vol. 54, No. 11, November 1965.

d. Putting knowledge to use: A distillation of the literature regarding knowledge transfer and change. Washington, D.C.: National Institute of Mental Health, in press.

e. Glaser, E. et al. Utilization of applicable research and demonstration results. Final report on Project RD-1263-G, Social and Rehabilitation Service, Department of Health, Education and Welfare, Washington, D.C., March 1967.

f. A pilot study to determine the feasibility of promoting the use of a systematized care program for patients with chronic obstructive pulmonary disease. Final report on Project RD-2571-G, Social and Rehabilitation Service, Department of Health, Education and Welfare, Washington, D.C., July 1968.

g. Glaser, E. and Taylor, S. Factors influencing the success of applied research. American Psychologist, Vol. 28, No. 2, February 1973.

h. Productivity gains through worklife improvement. New York: The Psychological Corporation (Harcourt Brace Jovanovich, Inc.), 1976.

Consulting Orientation

My basic professional training was in clinical and social psychology. I have been functioning as a psychological consultant to organizations since 1946 (in addition to my research work).

In working with a client organization, I tend to focus first on learning who really is my client--who is seeking my consultation, for what and whose purposes, etc. Thus, I attempt to assess "learning readiness." If I have questions about whether the client is asking the "right" questions, we explore such considerations. While I try to work closely with the persons who have the power to decide what may or may not be attempted, my consultation often extends to individuals or groups at the lower levels of the organization. Usually, this can be carried on only through the consultant having good access to those above them in the organizational hierarchy.

What I do depends in large part on (a) the client's perception of needs, (b) my assessment of the client's needs, and (c) my own areas of consulting capability. From this "joint venture" exploration, we develop a consultation service plan. I try to get the client to look with me at questions of leadership, goals, decision making, motivation, communication and control as they affect organizational performance, goal attainment, job satisfaction, and QWL. Or to put this in another way, an objective of consultation is to help the client organization look diagnostically at itself and validate its state of being as OK, or identify areas in need of remedial action, then serve as a resource for planning and taking remedial action.

A key concept in my mind that bears on organizational effectiveness and QWL is the general desirability of creating a responsive work climate wherein suggestions from any level for improvement in the design, structure, organization or modus operandi of the work or work setting readily can arise and receive serious, non-defensive, respectful attention. From such a work culture, desires for greater participation in decision making, job enrichment or improved reward structure can emerge.

APPENDIX H

INTERVENTION FOCAL POINT	INTERVENTION	ACTUAL OUTCOME	ASSESSMENT
Meaningful jobs- rotation, challenge, some autonomy, responsibility, feedback, influence on job design. DESIRED OUTCOME	5-21-75 Suggested various alternatives to finishing supervisor, re: finishing jobs--e.g., team members assigning positions for finishing; using volunteers for the fill; informing members early so to involve in problem solving. Also feedback on lack of rotation in fill jobs.	5-21-75 Initial response was that he feels he has little choice (authority or ability to influence) in job design (dept. manager appears to be the decision-maker). 5-22-75 Some rotation occurred--dependent on supervisor's assignment.	5-25-75 Would be good if next fills could have rotation dependent on operator preference & negotiation.
	5-21-75 Asked dept. manager about job changes.	5-21-75 Dept. manager said some changes were only dependent on (awaiting) supervisors writing the job description.	
	5-27-75 Gave feedback to supervisors that dept. manager had differing perceptions of next step.		
VALUE OF OUTCOME Ref: Theoretical Framework	5-28-75 Gave feedback to plant manager that some operators want more opportunities to think; feedback resulting from comments such as, "they don't give us credit for having the intelligence to get from home to work;" or, "if they're so busy, why not let us do some of those jobs?"	5-28-75 Plant manager commented that he wants that feedback to come to him in the employee representative meetings, then he can use it with the managers. 5-26, 5-28-75 Both personnel manager and plant manager see it wa their responsibility to intervene and/or influence the way jobs are designed--that if a dept. tried to create an isolating or boring job they would question.	

APPENDIX H (Continued)

INTERVENTION FOCAL POINT	INTERVENTION	ACTUAL OUTCOME	ASSESSMENT
DESIRED OUTCOME	6-11-75 Referring to 5-21-75: went to finishing supervisor, asked what advantages of consulting people before restructuring jobs—suggested (1) new ideas, alternatives, (2) better acceptance.	6-11-75 Response was vague; saw disadvantage of getting people's hopes up then not being able to change. Then said no change was planned and that people had expected to fill when hired as finishing operators. Then couldn't remember if he'd told operators in hiring them . . .	6-11-75 Felt he was confused and changing his story.
		6-11-75 later: the supervisor called to tell me that he felt he'd "copped out" on me in our previous conversation—that I hadn't gotten his attention—and he apologized. Sorry he hadn't told me at the time.	6-11-75 Very frustrating—this supervisor is self-aware but doesn't operate in real time. Means too that he's not "with" his operators at times.
VALUE OF OUTCOME Ref: Theoretical Framework		6-11-75 Finishing dept. manager and supervisor agreed that the morning's task would be to work with dept. manager and QA to set a standard for glass rejects. What happened was that dept. manager sent QA away (to release needed stoppers), then dept. manager set standard with supervisor, not people (who do the inspecting). Then supervisor related standards to team—without explanation for why QA left or why plan was changed.	6-11-75 This situation is fairly typical, reflects managers' attitude that production must not stop and that chain of command is only vehicle needed. Won't take time to communicate.
	6-11-75 I encouraged one team member to discuss this with supervisor and, with his agreement, to discuss with dept. manager.		

APPENDIX I

OUTLINE OF AN EVALUATION PROCEDURE*

An organization about to embark upon a quality of work program that it hopes also would improve productivity in the process, needs to measure the results of its efforts. It also would be well to assess systematically the "readiness" of the organization to make such a change and carry it through successfully.

Dr. Howard R. Davis, Chief, Mental Health Services Development Branch, National Institute of Mental Health (NIMH), Rockville, Maryland, has developed a model for understanding what appear to be the principal factors underlying change in human systems, using the acronym A VICTORY. It is based on the principle of synergism--the force of relevant factors working together. Among the several uses to which the model may be put are determining: (1) the readiness of a given system or organization to adopt a specified change, and (2) the "weak links" among the eight factors that may need strengthening before launching into the change efforts *per se*.

The A VICTORY formulation evolved from a behavioral model of change adapted from learning theory embracing such considerations as drive or motivation, the ability or capacity of the learner, and circumstances or stimulus conditions. Results from a number of experiments on adoption of innovations, as well as from literature surveys, have been matched with the behavioral factors.

The factors, or elements, of this model are defined briefly as follows:

(a) Ability - required capability to adopt the innovation: sanctions; fiscal, manpower, physical resources; freedom from overweening competing demands.

(b) Values - the nature of the innovation: values implicit in its adoption, both typically, and from the standpoint of organizational attributes relevant to its success, such as compatibility with the value system of decision-makers in a given situation.

(c) Information - clarity and communication qualities of the innovation; information relevant to understanding how the innovation will help solve a problem.

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*Portions of this brief summary were excerpted from H. R. Davis & S. E. Salasin, "The Utilization of Evaluation." In B. Struening & M. Guttentag, Eds., *Handbook of Evaluation Research, Vol. I* (Beverly Hills, Calif.: Sage Publications, 1975).

(d) Circumstances - stimulus conditions or environmental features of events relevant to the success of the project; prevailing factors pressing for or detracting from certain actions.

(e) Timing - of critical phases or events relevant to the innovation; synchrony with other significant events.

(f) Obligation - awareness and felt need to do something about a problem that the innovation seems likely to solve.

(g) Resistances - inhibitors of the change, rational and irrational; perceived risks if the specific action is taken.

(h) Yield - the benefits or payoff from the innovation as perceived by potential adopters and by program participants.

The content under each of the factors appearing in the preceding outline and the profile rating to follow is based upon distillations of much of the literature on knowledge utilization and organizational change as deemed to pertain to human services. The generation of A VICTORY also has been dependent upon a series of conferences and experimental studies over the past ten years supported largely through NIMH in-house resources, contracts, and collaborative grants. Extensive help has been provided by consultants working in the field of change outside the topical area of mental health. The A VICTORY technique, in its several developing stages, has been applied in technical assistance and in research consultation and administration within the services program at NIMH. It also has had continual use as an internal management approach within that program.

Based on a series of collaborative studies underway and sponsored by NIMH, it seems fair to conclude at this point that the A VICTORY technique may at least offer a starting framework for planning the adoption of new policies or practices.

In order to focus attention on the A VICTORY factors and to make explicit in profile form the outcome of the judgments of interested persons, the following rating scheme may be useful:

A VICTORY Profile

	Factor	Rating of Factors*										
		0	1	2	3	4	5	6	7	8	9	10
Ability	Are staff skills and knowledge appropriate to accommodate the change?	.	.	.	.	.	.	.	.	.	.	.
	Are fiscal resources adequate for the desired change?	.	.	.	.	.	.	.	.	.	.	.
	Are physical resources appropriate and adequate for the change?	.	.	.	.	.	.	.	.	.	.	.
	Are the necessary managerial skills available to accomplish the change?	.	.	.	.	.	.	.	.	.	.	.
Values	Is the change consonant with relevant values of clients, such as perhaps social, religious, ethnic or political values?	.	.	.	.	.	.	.	.	.	.	.
	Is the change consonant with the philosophies and policies of program supporters?	.	.	.	.	.	.	.	.	.	.	.
	Is the change consonant with the personal and professional values of the staff?	.	.	.	.	.	.	.	.	.	.	.
	Is the change consonant with the personal and professional values of the top man?	.	.	.	.	.	.	.	.	.	.	.
	Are the characteristics of the organization such as to render change likely?	.	.	.	.	.	.	.	.	.	.	.

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* Key to Rating

0 = complete absence, or poor fit, or deeply negative answer to the question raised under the particular factor

5 = a midpoint rating

10 = an exceedingly positive or "resounding yes" to the question raised under the particular factor

Ratings intermediate between the above points may be assigned according to the rater's judgment as to where the organization falls with respect to each factor.

	Factor	Rating of Factors										
		0	1	2	3	4	5	6	7	8	9	10
Information	Is information regarding the desired change adequate and clear?	.	.	.	.	.	.	.	.	.	.	.
	Does available information about the idea bear relevance to the seemingly needed improvement?	.	.	.	.	.	.	.	.	.	.	.
	Does available information indicate that the idea behind the desired change is "tryable;" can its alleged advantages be demonstrated and observed?	.	.	.	.	.	.	.	.	.	.	.
	Have the possible negative side effects been surfaced with appropriate conditions of optimal use specified?	.	.	.	.	.	.	.	.	.	.	.
Circumstances	Are conditions in the potential adopter's situation similar to those where the idea was demonstrated to be effective?	.	.	.	.	.	.	.	.	.	.	.
	Does the organization appear to be in a condition or mood of "readiness" for the given change?	.	.	.	.	.	.	.	.	.	.	.
	Is the organization located near facilities or community services that may be needed to help implement the change?	.	.	.	.	.	.	.	.	.	.	.
Timing	Should the change be implemented now or will the organization be in a better position to do this successfully sometime in the future?	.	.	.	.	.	.	.	.	.	.	.
	Is the suggested improvement likely to continue to be of value or might it become outdated in the near future?	.	.	.	.	.	.	.	.	.	.	.
	Are other events occurring at this time that could bear on the response to this change?											

Factor		Rating of Factors										
		0	1	2	3	4	5	6	7	8	9	10
Obligations	Has the need for this change been ascertained through sound evaluation?	.	.	.	.	.	.	.	.	.	.	.
	Has the need for this change been compared with other needs in the program?	.	.	.	.	.	.	.	.	.	.	.
	Are there other strong reasons--political, administrative, fiscal or powerful/influential advocacy--pushing for the change?	.	.	.	.	.	.	.	.	.	.	.
Resistances	Have all the reasons for not adopting this change been considered at least by all key persons concerned?	.	.	.	.	.	.	.	.	.	.	.
	Has consideration been given to what may have to be abandoned if the plan is implemented?	.	.	.	.	.	.	.	.	.	.	.
	Has consideration been given to who will lose in this change?	.	.	.	.	.	.	.	.	.	.	.
	Has consideration been given to possible unrealistic staff resistances to the change; can these be overcome satisfactorily?	.	.	.	.	.	.	.	.	.	.	.
Yield	Has the soundness of evidence about the potential benefits of the plan in comparison with present or alternative plans been carefully assessed and made available to those concerned?	.	.	.	.	.	.	.	.	.	.	.
	Have possible indirect rewards for this change been examined and communicated appropriately?	.	.	.	.	.	.	.	.	.	.	.

BIBLIOGRAPHY

Allport, G. W. The psychology of participation. *Psychological Review*, 1945, *52*, 117-32.

Blumberg, P. *Industrial democracy*. London: Constable, 1968.

Brief, A. P. & Aldag, R. J. Employee reactions to job characteristics: A constructive replication. *Journal of Applied Psychology*, 1975, *60*, 182-86.

Brower, M. Relations between work redesign, worker participation, productivity, and the quality of working life. Paper presented at the meeting of the American Psychological Association, New Orleans, August 1974.

Cornuelle, R. C. *De-managing America: The final revolution.* New York: Random House, 1975.

Cummings, T. G., Molloy, E. S. & Glen, R. H. Intervention strategies for improving productivity and the quality of worklife. *Organizational Dynamics*, (Summer 1975), *4*, 1, 49-51; 52-68.

Davis, H. R., & Salasin, S. The utilization of evaluation. In E. Struening & M. Guttentag (Eds.), *Handbook of evaluation research* (Vol. 1). Beverly Hills, Calif.: Sage Publications, 1975.

Davis, L. E. & Taylor, J. C. (Eds.). *The design of jobs*. Baltimore, Md.: Penguin Books, 1972.

Fein, M. Job enrichment: A reevaluation. *Sloan Management Review*, Winter 1974, *15*, 2, 86-87.

Frank, L. L. & Hackman, J. R. *A failure of job enrichment: The case of the change that wasn't*. (Tech. Report No. 8) New Haven: Yale University School of Organization and Management, March 1975.

Garson, B. *All the livelong day: The meaning and demeaning of routine work*. New York: Doubleday & Co., 1975.

Glaser, E. M. *Improving the quality of worklife... and in the process improving productivity*. Washington, D. C.: U. S. Department of Labor, Manpower Administration, 1974.

Glaser, E. M. *Productivity Gains through Worklife Improvement*. New York: Psychological Corp. In press, 1976.

Glaser, E. M. *Putting knowledge to use: A distillation of the literature regarding knowledge transfer and change*. In press, 1976.

Glaser, E. M. & Backer, T. E. A clinical approach to program evaluation. Evaluation, 1971, 1, 54-60.

Glaser, E. M. & Backer, T. E. A look at participant-observation. Evaluation, 1973, 1, 3, 46-50.

Hackman, J. R. On the coming demise of job enrichment. (Tech. Report No. 9) New Haven: Yale University Department of Administrative Sciences, December 1974.

Hackman, J. R. Is job enrichment just a fad? Harvard Business Review, (September-October 1975), 53, 5, 129-38.

Hackman, J. R. & Lawler, E. E. Employee reactions to job characteristics. Journal of Applied Psychology Monograph, 1971, 55, 3.

Hackman, J. R. & Oldham, G. R. Motivation through the design of work: Test of a theory. (Tech. Report No. 6) New Haven: Yale University Department of Administrative Sciences, December 1974.

Hackman, J. R., Oldham, G., Janson, R. & Purdy, K. A new strategy for job enrichment. (Tech. Report No. 3) New Haven: Yale University Department of Administrative Sciences, December 1974.

Herzberg, F. Work and the nature of man. Cleveland, Ohio: World Publishing Co., 1966.

Katzell, R. A. & Yankelovich, D., et al. Work, productivity, and job satisfaction. New York: Psychological Corp., 1975.

National Institutes of Health. School Capacity for Problem Solving: Program Plan. Washington, D.C.: U.S. Department of Health, Education & Welfare, 1975.

Oldham, G. R., Hackman, J. R. & Pearce, J. L. Conditions under which employees respond to job characteristics: A constructive replication. (Tech. Report No. 4) New Haven: Yale University Department of Administrative Sciences, September 1975.

Rappaport, D. In P. A. Clark (Ed.), Action research and organizational change. London: Harper & Row, 1972.

Rosow, J. M. (Ed.). The worker and the job: Coping with change. Englewood Cliffs, N. J.: Prentice-Hall, 1974.

Rush, H. M. *Behavioral science: Concepts and management applications*. New York: The Conference Board, Inc., 1969.

Scobel, D. N. Doing away with the factory blues. *Harvard Business Review*, (November-December 1975), *53*, 6, 132-142.

Srivastva, S., et al. *Job satisfaction and productivity: An evaluation of policy related research on productivity, industrial organization and job satisfaction: Policy development and implementation*. Cleveland: Case Western Reserve University, 1975.

U. S. Department of Health, Education and Welfare Task Force. *Work in America*. Cambridge, Mass.: MIT Press, 1972.

Vroom, V. H. Industrial social psychology. In G. Lindsay & E. Eronson (Eds.), *The handbook of social psychology* (2nd edition, Vol. 5). Reading, Mass.: Addison-Wesley, 1969.

Walton, R. E. Improving the quality of worklife. *Harvard Business Review*, (May-June 1974), *52*, 3, 12ff.

Wood, M. T., Rasmussen, J. E. & Lawler, E. E. *Federally sponsored research on the quality of worklife: Planning, support, and products*. Washington, D. C.: Department of Labor, 1975.

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